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BEFORE THE ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION
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IN THE MATTER OF THE APPLICATION OF ADAMAN MUTUAL WATER COMPANY FOR A RATE INCREASE.

DOCKET NO. W-01997A-12-0501

NOTICE OF FILING STAFF'S DIRECT TESTIMONIES

Staff of the Arizona Corporation Commission ("Staff") hereby files the Direct Testimonies of Crystal S. Brown, Katrin Stukov and John A. Cassidy, in the above-referenced matter.

RESPECTFULLY SUBMITTED this 7th day of August, 2013.

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Original and thirteen (13) copies of the foregoing filed this 7th day of August, 2013, with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Copy of the foregoing mailed this 7th day of August, 2013, to:

David Schofield, General Manager
ADAMAN MUTUAL WATER COMPANY
16251 West Glendale Avenue
Litchfield Park, Arizona 85340

Arizona Corporation Commission
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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF ADAMAN MUTUAL WATER COMPANY FOR APPROVAL OF A RATE INCREASE.	))))	DOCKET NO. W-01997A-12-0501

DIRECT

TESTIMONY

OF

CRYSTAL S. BROWN

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

AUGUST 7, 2013

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EXECUTIVE SUMMARY
ADAMAN MUTUAL WATER COMPANY
DOCKET NO. W-01997A-12-0501

Adaman Mutual Water Company ("Adaman" or "Company") is an Arizona public service corporation engaged in providing water utility services to approximately 260 customers in Litchfield Park, Maricopa County, Arizona. Adaman's current rates were approved in Decision No. 59739, dated July 17, 1996.

The Company proposes a $1,122, or 0.26 percent revenue increase from $423,775 to $424,897. The increase would apply to the City of Goodyear only. The proposed revenue increase would produce an operating income of $28,360 for a 10.14 percent rate of return on an original cost rate base ("OCRB") of $279,726. The Company's proposed rates would have no effect on the typical residential 1-inch meter bill of $36.43.

Staff's analysis shows that a 1.83 percent revenue decrease could be justified; however, Staff recommends no change in the Company's revenue requirement at this time. Staff recognizes that if the water quality of the new well meets compliance, then a revenue increase would more than likely be warranted once the cost of the new well is reflected in the rate base/revenue requirement. Staff's adjusted OCRB is $304,022 as shown on Schedule CSB-1. Staff's recommended rates would decrease[1] the typical residential 1-inch meter monthly bill with a median usage of 10,214 gallons from $36.43 to $35.71, for a decrease of $0.72 or 1.98 percent.

[1] Although Staff has recommended no change to the revenue requirement, Staff has recommended a change in the Company's rate design from a $2.00 uniform rate to an inverted three-tiered commodity rate. This rate design change results in a decrease for a typical bill.

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Crystal S. Brown. I am a Public Utilities Analyst V employed by the Arizona Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst V.

A. I am responsible for the examination and verification of financial and statistical information included in utility rate applications. In addition, I develop revenue requirements, prepare written reports, testimonies, and schedules that include Staff recommendations to the Commission. I am also responsible for testifying at formal hearings on these matters.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Science Degree in Business Administration from the University of Arizona and a Bachelor of Science Degree in Accounting from Arizona State University.

Since joining the Commission in August 1996, I have participated in numerous rate cases and other regulatory proceedings involving electric, gas, water, and wastewater utilities. I have testified on matters involving regulatory accounting and auditing. Additionally, I have attended utility-related seminars sponsored by the National Association of Regulatory Utility Commissioners ("NARUC") on ratemaking and accounting designed to provide continuing and updated education in these areas.

Q. What is the scope of your testimony in this case?

A. I am presenting Staff's analysis and recommendations in the areas of rate base and operating revenues, expenses, and rate design regarding the Adaman Mutual Water Company ("Adaman" or "Company") application for a permanent rate increase. Staff witness, John Cassidy, is presenting Staff's cost of capital recommendations. His 9.1 percent recommendation is shown on Schedule CSB-1, line 4. Staff witness, Katrin Stukov, is presenting Staff's engineering analysis and recommendations.

Q. What is the basis of your recommendations?

A. I performed a regulatory audit of the Company's application to determine whether sufficient, relevant, and reliable evidence exists to support the Company's requested rate increase. The regulatory audit consisted of examining and testing the financial information, accounting records, and other supporting documentation and verifying that the accounting principles applied were in accordance with the Commission-adopted NARUC Uniform System of Accounts ("USoA").

BACKGROUND

Q. Please provide a brief description of Adaman and the service it provides.

A. Adaman is an Arizona public service corporation engaged in providing water utility services to approximately 260 customers in Litchfield Park, Maricopa County, Arizona. Adaman's current rates were approved in Decision No. 59739, dated July 17, 1996.

Q. What is the primary reason for Adaman's requested permanent rate increase?

A. Adaman was ordered to file a rate case in Decision No. 72506, dated August 3, 2011.

CONSUMER SERVICE

Q. Please provide a brief history of customer complaints received by the Commission regarding Adaman.

A. Staff reviewed the Commission's records and found that, for the years 2010 to 2013, there have been no complaints regarding this Company.

COMPLIANCE

Q. Please provide a summary of the compliance status of Adaman.

A. A check of the Compliance database indicates that there are currently no delinquencies for Adaman.

SUMMARY OF PROPOSED REVENUES

Q. Please summarize the Company's filing.

A. The Company proposes a $1,122, or 0.26 percent revenue increase from $423,775 to $424,897. The increase would apply to the City of Goodyear only. The proposed revenue increase would produce an operating income of $28,360 for a 10.14 percent rate of return on an original cost rate base ("OCRB") of $279,726. The Company's proposed rates would have no effect on the typical residential 1-inch meter bill of $36.43.

Q. Please summarize Staff's recommended revenue.

A. Staff's analysis shows that a 1.83 percent revenue decrease could be justified; however, Staff recommends no change in the Company's revenue requirement at this time. Staff recognizes that if the water quality of the new well meets compliance, then a revenue increase would more than likely be warranted once the costs of the new well are reflected in the rate base/revenue requirement. Staff's adjusted OCRB is $304,022 as shown on Schedule CSB-1. Staff's recommended rates would decrease the typical residential 1-inch

meter bill with a median usage of 10,214 gallons from $36.43 to $35.71, for a decrease of $0.72 or 1.98 percent. Although Staff has recommended no change to the revenue requirement, Staff has recommended a change in the Company's rate design from a $2.00 uniform rate to an inverted three-tiered commodity rate. This rate design change results in a decrease for a typical bill.

Q. What test year did Adaman utilize in this filing?

A. Adaman's test year is based on the twelve months ended June 30, 2012.

Q. Please summarize Staff's rate base and operating income adjustments for Adaman.

A. My testimony discusses the following adjustments:

Rate Base Adjustments

Organizational Costs – The adjustment increases plant in service by $4,826. It reflects organizational costs that the Company expensed rather than capitalizing.

Well No. 6 Retirement – The adjustment decreases plant in service by $153,746. It reflects the cost of a well that was has been taken out of service.

Inadequately Supported Plant Costs – The adjustment decreases plant in service by $28,208. It removes recorded plant costs that were not adequately supported by invoices or other types of source documentation.

Accumulated Depreciation – This adjustment decreases accumulated depreciation by $201,425 and reflects Staff's calculation of accumulated depreciation based on Staff's adjustments to plant.

Operating Income Adjustments

Water Revenue Reclassification – This adjustment has no net effect on operating revenue. It reclassifies $90,372 of metered water sales revenue to the City of Goodyear from the Other Revenue account to the Sales for Resale account in accordance with the NARUC USoA. It also reclassifies $1,522 in revenues derived from miscellaneous service charges from Metered Water Revenue to Other Revenue.

Purchased Power Expense – This adjustment decreases purchased power expense by $5,073 to remove costs for which the Company had no supporting invoices.

Repairs and Maintenance Expense – The adjustment decreases repairs and maintenance expense by $20,297. It reflects invoices provided in support of the repairs and maintenance expense but not reflected on the Company's income statement; normalizes the cost incurred for arsenic media replacement; and records the disposal cost of an abandoned well in accumulated depreciation rather than operating expense as prescribed by the NARUC USoA.

Outside Services Expense – This adjustment decreases outside services expense by $8,054 to reflect the capitalization of costs incurred for changing the organization status of the Company from non-profit to for-profit and to normalize the City of Goodyear contract costs.

Water Testing Expense – This adjustment increases water testing expenses by $287 to reflect Staff's recommended annual water testing costs.

Rents Expense Reclassification – This adjustment decreases office supplies and expenses by $8,400 and increases rents expense by $8,400 to reflect the rents expense charged to Adaman by its affiliate.

Rate Case Expense – This adjustment increases rate case expense by $9,842 to reflect the normalization of rate case expense that the Company incurred for the filing of the instant rate case.

Depreciation Expense – This adjustment decreases depreciation expense by $4,696 to reflect Staff's calculation of depreciation expense using Staff's recommended depreciation rates and Staff's recommended plant and Contribution in Aid of Construction ("CIAC") balances.

Property Tax Expense – This adjustment increases property tax expense by $3,432 to reflect Staff's calculation of the Company's property tax expense.

Income Tax Expense – This adjustment increases income tax expenses by $8,923 to reflect the income tax obligation on Staff's adjusted test year taxable income.

RATE BASE

Fair Value Rate Base

Q. Did the Company prepare schedules showing the elements of Reconstruction Cost New Rate Base?

A. No, the Company did not. The Company's filing treats the OCRB the same as the fair value rate base.

Rate Base Summary

Q. Please summarize Staff's adjustments to Adaman's rate base shown on Schedules CSB-3 and CSB-4.

A. Staff's adjustments to Adaman's rate base resulted in a net increase of $24,296, from $279,726 to $304,022 due to various adjustments as discussed in Staff's testimony.

Rate Base Adjustment No. 1– Organizational Costs

Q. Did the Company incur costs to change its corporate status from a non-profit to a C-corporation?

A. Yes, the Company changed its corporate status from a non-profit to a C-corporation in order to sell water to the City of Goodyear, and incurred costs of $4,826.

Q. How did the Company treat these costs?

A. The Company treated these costs as operating expenses and recorded them in the outside services account.

Q. Is the Company's treatment of these costs as operating expenses appropriate?

A. No. According to the NARUC USoA, these types of costs are plant costs and properly includable in Account No. 301, Organization. The NARUC USoA states:

> This account shall include all fees paid to federal or state government for the privilege of incorporation and **expenditures incident to organizing the corporation**, partnership or other enterprise and putting it into readiness to do business. A sample of items to be included in this account are listed below.
>
> 1. Actual cost of obtaining certificates authorizing an enterprise to engage in the public utility business.
> 2. **Fees and expenses for incorporation.** (Emphasis added).
> 3. Fees and expenses for mergers or consolidations.

4. Office expenses incident to organizing the utility.
5. Stock and minute books and corporate seal.

Q. What is Staff's recommendation?

A. Staff recommends increasing the organization account by $4,826 as shown on Schedules CSB-4 and CSB-5.

Post-Test Year Plant

Q. Did Staff determine that the Company's storage capacity was inadequate?

A. Yes. Staff's engineering witness, Katrin Stukov, stated that the Company's storage capacity was inadequate for test year customers:

> "the **storage capacity** of 200,000 gallons **is inadequate to serve the present customer base** of 260 service connections. Based on the Company's water use data and the capacity analyses, a minimum of 600,000 gallons of storage is required on this system (with a single source) to meet seasonal peak demand. As an alternative, multiple well sources (with a minimum total operating capacity of 750 GPM) could satisfy the storage capacity deficiency." (Emphasis added).

Q. Is the Company in the process of constructing a well that may help to resolve its storage capacity issues?

A. Yes, the Company is in the process of constructing Well No. 1C.

Q. Is the water quality of Well No. 1C known?

A. No, not at this point. The Company, in response to data request CSB 2.9, states that "The Adaman Mutual Water Company would like to develop the well as a primary or secondary source for the system. This will depend on further testing."

Q. If testing shows that the water quality of Well No. 1C is within compliance and the well is placed in service and the cost of the well is known, would Staff consider including Well No. 1C in rate base as post-test year plant?

A. Yes. Because the plant is needed to serve test year customers, Staff would consider including the plant in rate base in this case if Well No. 1C is used and useful before the end of the hearing.

Rate Base Adjustment No. 2– Well No. 6A Retirement

Q. Did the Company take Well No. 6A out of service during the test year?

A. Yes. Staff's engineering witness Katrin Stukov stated, "In March 2011, Adaman stopped using its Well No. 6A and related components due to high Nitrate levels and now relies on water purchased from the District's Well No. 1B."

Q. Is the Company in the process of abandoning Well No. 6A?

A. Yes.

Q. What is the original cost of Well No. 6A?

A. The original cost of the well is $153,746 (CSB 2.8).

Q. Has the Company removed the cost of Well No. 6A from plant in service?

A. No.

Q. What is Staff's recommendation?

A. Staff recommends decreasing plant in service by $153,746 as shown on Schedules CSB-4 and CSB-6.

Rate Base Adjustment No. 3 – Inadequately Supported Plant

Q. Are plant costs required to be supported?

A. Yes. The Arizona Administrative Code R14-2-610 D.1 states, "Each utility shall keep general and auxiliary accounting records reflecting the cost of its properties . . . and all other accounting and statistical data necessary to give complete and authentic information as to its properties . . ." (emphasis added).

Q. During the audit, did Staff identify plant costs which Adaman could not adequately support?

A. Yes. Adaman did not provide invoices to support $28,208 in plant as shown on Schedule CSB-7. Source documents are essential records for verifying plant costs. In the absence of supporting documentation, the Company's plant balances cannot be verified.

Q. Should the inadequately supported plant costs be removed from rate base?

A. Yes. It is the Company's responsibility to support its claimed costs. If unsupported costs are not removed, ratepayers are at risk of paying for non-existent or overstated costs.

Q. What is Staff's recommendation?

A. Staff recommends decreasing plant in service by $28,208 as shown on Schedules CSB-4 and CSB-7.

Rate Base Adjustment No. 4 – Accumulated Depreciation

Q. What did Adaman propose for Accumulated Depreciation?

A. Adaman proposed $723,244 for accumulated depreciation.

Q. What adjustments did Staff make?

A. Staff recalculated the accumulated depreciation balance using the plant in service balances that were adjusted by the removal of inadequately supported plant costs, the cost of a well that was taken out of service, and the well's related abandonment costs. Staff will discuss each separately.

Accumulated Depreciation On Inadequately Supported Plant

Q. Did Staff adjust accumulated depreciation for the plant that Staff removed due to inadequate support?

A. Yes. This adjustment relates to "Rate Base Adjustment No. 1, Inadequately Supported Plant" and reflects the removal of accumulated depreciation associated with the plant. Staff calculated $12,838 in accumulated depreciation that should be removed as shown on Schedule CSB-8.

NARUC Accounting Treatment for Retired Well and Associated Abandonment Costs

Q. What does the NARUC USoA for Class C Water Utilities state for account no. 108, Accumulated Depreciation and Amortization of Utility Plant In Service?

A. It states:

> This account shall be charged with:
>
> (1) Original cost of depreciable plant retired.
>
> (2) Cost of removal of plant retired.

Q. Did the Company remove the original cost and the associated abandonment costs from accumulated depreciation in accordance with the NARUC USoA?

A. No.

Q. What is the original cost of the well?

A. The original cost of the well is $153,746 (CSB 2.8).

Q. What are the well abandonment costs?

A. The well abandonment costs are $34,840. These costs were reclassified from "Operating Income Adjustment No. 3, Repairs and Maintenance."

Q. What is the total to be removed from accumulated depreciation due to the well retirement and associated abandonment costs?

A. The total is $188,587 ($153,746 + $34,840).

Q. What is Staff's recommendation for the total for all adjustments to be removed from accumulated depreciation?

A. Staff recommends decreasing accumulated depreciation by $201,425 as shown on Schedules CSB-4 and CSB-8.

OPERATING INCOME

Operating Income Summary

Q. What are the results of Staff's analysis of test year revenues, expenses and operating income?

A. As shown on Schedules CSB-9 and CSB-10, Staff's analysis resulted in test year revenues of $423,775, expenses of $390,050 and operating income of $33,725.

Operating Income Adjustment No. 1 – Water Revenue Reclassification

Q. According to Decision No. 72506, how was Adaman to record the revenues and expenses of sales made to the city of Goodyear?

A. According to Decision No. 72506, p.15, line 1, Adaman was to "defer all revenues and expenses associated with the Sales Agreement commencing with the initial sales through and until the date of issuance of a rate order that determines the appropriate rate-making treatment of such revenues and expenses . . ."

Q. Has Staff reviewed the deferrals?

A. Yes.

Q. What is the appropriate rate-making treatment for the deferrals?

A. The revenues and expenses should be treated as ordinary revenues and expenses and recorded in accordance to the NARUC USoA.

Q. In what account did the Company propose to include the revenues from the Sales Agreement?

A. The Company has proposed that all revenues be included in the "Other Revenue" account.

Q. What are the components of the "Other Revenue" account?

A. According to the Company's response to data request CSB 3.11, the account includes $92,374 from metered water sales to the City of Goodyear and $11,084 in revenues derived from administrative fees paid in accordance to the Goodyear sales agreement.

Q. Does Staff agree that the metered water sales should be included in the "Other Revenue" account?

A. No, Staff does not.

Q. What is the appropriate account?

A. The appropriate account is account no. 466, Sales for Resale. The NARUC USoA for Class C Utilities states, "This account shall include the net billing for water supplied (including stand-by service) to other water utilities or to public authorities for resale purposes."

Q. Did Staff identify any other amounts that should be reclassified?

A. Yes. The Company included $300 for service connection fees and $1,252 for late fees in account no. 461, Metered Water Revenue. However, because these fees were not derived from metered water sales, they should not be included in the Metered Water Revenue account. Rather, the fees should be included in account no. 474, Other Revenue in accordance with the NARUC USoA.

Q. What is Staff's recommendation?

A. Staff's recommendation has no net effect on operating revenue. The net adjustment consists of (1) decreasing account no. 461, Metered Water Revenue by $1,552 (2) decreasing account no. 460, Other Operating Revenues by $90,822; and (3) increasing account no. 466, Sales for Resale by $92,374. Staff's calculations are shown on Schedule CSB-11.

Operating Income Adjustment No. 2 – Purchased Power Expense

Q. What is the Company proposing for purchased power expense?

A. The Company is proposing $26,809 for purchased power expense.

Q. What adjustment did Staff make?

A. Staff removed costs that were not supported by invoices.

Q. What is Staff's recommendation?

A. Staff recommends decreasing purchase power expense by $5,073 as shown on Schedules CSB-10 and CSB-12.

Operating Income Adjustment No. 3 – Repair and Maintenance Expense

Q. What did the Company propose for Repair and Maintenance Expense?

A. The Company proposed $62,301 for repairs and maintenance expense.

Q. What adjustments did Staff make?

A. Staff decreased the repairs and maintenance account by a net $20,297. Staff's adjustment reflects invoices provided in support of the repairs and maintenance expense but not reflected on the Company's income statement; normalizes the cost incurred for arsenic media replacement; and records the disposal cost of an abandoned well in accumulated depreciation rather than operating expense as prescribed by the NARUC USoA. Staff will discuss each separately.

Additional Expense Supported by Test Year Invoices

Q. Did the Company provide invoices in support of the repairs and maintenance expense?

A. Yes.

Q. What was the total amount of the invoices?

A. The amount was $110,312 for the invoices whose dates fell within the test year as shown on Schedule CSB-13, page 2.

Q. What is the amount of additional repairs and maintenance cost supported by test year invoices?

A. The amount of additional repairs and maintenance cost supported by invoices whose dates fell within the test year is $48,011 ($110,312-$62,301).

Replacement Cost for the Company's Arsenic Media

Q. Does the Company have arsenic treatment plant?

A. Yes. According to the Company's application (p. 19), the arsenic treatment plant was placed in service in 2009.

Q. What is the replacement cost of the arsenic media?

A. The Company provided an invoice showing that the replacement cost of the arsenic media was $66,935.

Q. What is the expected useful life of the arsenic media?

A. The expected useful life is two years (CSB 2.7).

Q. What amount did Staff allow for media replacement?

A. Staff allowed $33,468 (i.e., $66,935 / 2 years).

Well Abandonment Costs

Q. Did the Company include well abandonment costs in the repairs and maintenance account?

A. Yes.

Q. What was the amount?

A. The amount was $34,840.

Q. What adjustment did Staff make?

A. Staff removed the well abandonment costs and included them in accumulated depreciation as discussed in Rate Base Adjustment No. 4, "Accumulated Depreciation."

Q. What is Staff's recommendation?

A. Staff recommends decreasing repairs and maintenance expense by $20,297 as shown on Schedules CSB-10 and CSB-13.

Operating Income Adjustment No. 4 – Outside Services Expense

Q. What did the Company propose for Outside Services Expense?

A. The Company proposed $20,967 for outside services expense.

Q. What adjustment did Staff make?

A. Staff capitalized $4,826 in costs incurred for changing the organization status of the Company from non-profit to for-profit. In addition, Staff removed $3,228 in City of

Goodyear contract costs as a result of normalizing the cost using three years. Staff normalized the contract costs using three years as these costs are not expected to be incurred at the same level each year and to allow recovery of the total costs within the timeframe that Staff expects the Company to file another rate case.

Q. What is Staff's recommendation?

A. Staff recommends decreasing outside services expense by $8,054 as shown on Schedules CSB-16 and CSB-20.

Operating Income Adjustment No. 5 –Water Testing Expense

Q. What did the Company propose for water testing expense?

A. The Company proposed $2,402 for water testing expense.

Q. What adjustment did Staff make?

A. Staff adjusted annual water testing costs to reflect Staff's recommended $2,689 water testing expense as discussed in greater detail by Staff witness Katrin Stukov.

Q. What is Staff's recommendation?

A. Staff recommends increasing water testing expense by $287 as shown on Schedules CSB-10 and CSB-15.

Operating Income Adjustment No. 6 – Rents Expense Reclassification

Q. What did the Company propose for rents expense?

A. The Company proposed no rents expense.

Q. What is the Company's rents expense?

A. The Company's rents expense is $700 per month or $8,400 annually.

Q. In what account did the Company include rents expense?

A. The Company included the amount in the Office Supplies and Expense account.

Q. What adjustment did Staff make?

A. Staff reclassified $8,400 from the Office Supplies and Expense account to the Rents Expense account.

Q. What is Staff's recommendation?

A. Staff's recommendation has no net effect on operating income. Staff recommends decreasing the Office Supplies and Expense account by $8,400 and increasing the Rents Expense by the same amount, as shown on Schedules CSB-10 and CSB-16.

Operating Income Adjustment No. 7 – Rate Case Expense

Q. What did the Company propose for rate case expense?

A. The Company proposed no rate case expense.

Q. What is the Company's actual and anticipated rate case expense related to the instant case?

A. In response to data request CSB 2.14, the Company's actual and anticipated rate case expense related to the instant case is $29,526.

Q. When does Staff recommend that the Company file a permanent rate application?

A. Staff recommends that the Company file a permanent rate application no later than May 31, 2016 using a December 31, 2015 test year as discussed later in the "Tariff for City of Goodyear Bulk Water Sales" section of Staff's testimony.

Q. As a result of this recommendation, what adjustment did Staff make to rate case expense?

A. Staff normalized the rate case expense using three years consistent with Staff's rate case filing recommendation.

Q. What is Staff's recommendation?

A. Staff recommends increasing rate case expense by $9,842, as shown on Schedules CSB-10 and CSB-18.

Operating Income Adjustment No. 8 – Depreciation Expense

Q. What is Adaman proposing for depreciation expense?

A. Adaman is proposing depreciation expense of $57,335.

Q. What adjustment did Staff make to depreciation expense?

A. Staff adjusted depreciation expense to reflect Staff's calculation of depreciation expense using Staff's recommended depreciation rates, plant balances, and CIAC balances. Staff's calculation is shown on Schedule CSB-18.

Q. What is Staff recommending?

A. Staff recommends increasing depreciation expense by $4,696, as shown on Schedules CSB-10 and CSB-18.

Operating Income Adjustment No. 9 – Property Taxes

Q. What is Adaman proposing for property taxes?

A. Adaman is proposing $10,910 for property taxes.

Q. Did Staff make any adjustment to the property taxes?

A. Yes. Staff's adjustment reflects Staff's calculation of the property tax expense using the modified Arizona Department of Revenue Methodology applied to Staff's recommended revenues, as shown on Schedule CSB-19.

Q. What is Staff's recommendation?

A. Staff recommends decreasing property tax expense by $3,432 as shown on Schedules CSB-10 and CSB-19.

Operating Income Adjustment No. 10 – Income Taxes

Q. What is Adaman proposing for test year income tax expense?

A. Adaman is proposing no test year income tax expense.

Q. Did Staff make any adjustments to test year income tax expense?

A. Yes. Staff's adjustment reflects Staff's calculation of the income tax expense based upon Staff's adjusted test year taxable income.

Q. What is Staff's recommendation?

A. Staff recommends increasing income tax expense by $8,923 as shown on Schedules CSB-10 and CSB-20.

Tariff for City of Goodyear Bulk Water Sales

Q. Has Staff reviewed the Company's tariff for bulk water sales to the City of Goodyear?

A. Yes.

Q. When was the tariff approved?

A. The tariff was approved in Decision No. 72506, dated August 3, 2011.

Q. Does the tariff allow the Company to make small increases to the contract rate without filing for a permanent rate increase?

A. Yes, the tariff states, "The base commodity fee is payable monthly, and shall equal $67 per acre-foot as of August 27, 2007, *as adjusted on each subsequent January 1 in an amount equal to the percentage change in the Consumer Price Index . . .*" (Emphasis added).

Q. Does Staff have any concern regarding the automatic increase?

A. Yes. Staff's concern is that the Company's revenue generated from sales to the City of Goodyear may become substantially large. This, in turn, may necessitate a rate reduction for Adaman's non-municipal customers.

Q. What is Staff's recommendation?

A. Staff recommends that the Company be ordered to file a permanent rate application no later than May 31, 2016 using a December 31, 2015 test year.

Q. Does Staff have any other recommendation concerning the 2016 filing?

A. Yes. Staff recommends that the Company file the schedules prescribed by the Arizona Administrative Code R-14-2-103 for Class C utilities rather than file a short form application as it did in the instant case.

RATE DESIGN

Q. Has Staff prepared a schedule summarizing the present, Company proposed, and Staff recommended rates and service charges?

A. Yes. Schedule CSB-21 provides a summary of the present, Company proposed, and Staff recommended rates and service charges.

Q. Please summarize the present rate design.

A. Customer class is distinguished by meter size. The monthly minimum charges vary by meter size and include no gallons. One commodity rate applies to all usage.

Q. Please summarize the Company's proposed rate design.

A. Customer class is distinguished by meter size. The monthly minimum charges vary by meter size and include no gallons. One commodity rate applies to all usage. The Company's proposed rates would have no effect on the typical residential 1-inch meter bill of $36.43, as shown on Schedule CSB-22.

Q. Please summarize Staff's recommended rate design.

A. Customer class is distinguished by meter size. The monthly minimum charges vary by meter size and include no gallons. The commodity rates are based on an inverted three-tier rate design. Staff's analysis shows that a 1.83 percent revenue decrease could be justified; however, Staff recommends no change in the Company's revenue requirement at

this time. Staff recognizes that if the water quality of the new well meets compliance, then a revenue increase would more than likely be warranted once the costs of the new well are reflected in the rate base/revenue requirement. Staff's adjusted OCRB is $304,022 as shown on Schedule CSB-1. Staff's recommended rates would decrease the typical residential 1-inch meter bill with a median usage of 10,214 gallons from $36.43 to $35.71, for a decrease of $0.72 or 1.98 percent, as shown on Schedule CSB-22. Although Staff has recommended no change to the revenue requirement, Staff has recommended a change in the Company's rate design from a $2.00 uniform rate to an inverted three-tiered commodity rate. This rate design change results in a decrease for the typical bill.

Q. Did the Company propose any changes to its Meter and Service Line Charges?

A. Yes, and Staff recommends approval. Both the Company-proposed and the Staff-recommended changes are shown on Schedule CSB-21 and are discussed in greater detail in the testimony of Staff witness, Katrin Stukov.

SERVICE CHARGES

Q. Did the Company propose any changes to the service charges?

A. Yes. The Company proposes to decrease the Deposit Interest (Per Month) from 6 percent to 0.75 percent; increase the Non-sufficient Funds ("NSF") Check charge from $10 to $35; discontinue the Establishment (After Hours) charge; and to add a Meter Re-Read charge of $15.

Q. Does Staff agree with the Company-proposed Deposit Interest Charge?

A. No, Staff does not. Staff recommends the Deposit Interest remain at 6 percent annually per Commission Rule R14-2-403(B)(3) in order to remain consistent with other utility companies and with current Commission practices.

Q. Does Staff agree with the Company-proposed NSF Check Charge?

A. No, as the Company provided documentation from its bank to support only a two dollar increase.

Q. What is Staff's recommendation concerning the NSF Check Charge?

A. Staff recommends that the NSF charge increase by two dollars, from $10 to $12.

Q. Does Staff agree with the Company-proposed Meter Re-read (If Correct) charge?

A. Yes. The proposed $15 charge is within the range of established charges.

Q. Does Staff recommend the elimination of the $25.00 Establishment (After Hours) Charge and to add a $25 After Hours Charge?

A. Yes, Staff recommends that the Establishment (After-Hours) Charge should be eliminated and that an After-Hours charge should be added. Staff agrees that an additional fee for service provided after normal business hours is appropriate when such service is at the customer's request. Such a tariff compensates the utility for additional expenses incurred from providing after-hours service.

Moreover, Staff concludes that it is appropriate to apply an after-hours service charge in addition to the charge for any utility service provided after hours at the customer's request. For example, under Staff's proposal, a customer would be subject to a $12.50 Establishment fee if it is done during normal business hours, but would pay an additional $25 after-hours fee if the customer requested that the establishment be done after normal business hours.

FIRE SPRINKLER RATES

Q. What are the Company's present and proposed fire sprinkler rates?

A. The Company's present and proposed fire sprinkler rates are one percent of the monthly minimum for comparable sized meters, but not less than $5.00 per month.

Q. What is Staff's recommended fire sprinkler rate?

A. Staff's recommended fire sprinkler rate is two percent of the monthly minimum for comparable sized meters, but not less than $10.00 per month. Staff's recommendation reflects the increase in cost of providing this service to customers

Q. Does this conclude Staff's Direct Testimony?

A. Yes, it does.

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Schedule CSB-1

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL COST	[B] STAFF ORIGINAL COST	[C] STAFF RECOMMENDS
1	Adjusted Rate Base	$ 279,726	$ 304,022	$ 304,022
2	Adjusted Operating Income (Loss)	$ 27,482	$ 33,725	$ 33,725
3	Current Rate of Return (L2 / L1)	9.82%	11.09%	11.09%
4	Required Rate of Return	10.14%	9.10%	9.10%
5	Required Operating Income (L4 * L1)	$ 28,360	$ 27,666	$ 33,725
6	Operating Income Deficiency/(Excess) (L5 - L2)	$ 878	$ (6,059)	$ -
7	Gross Revenue Conversion Factor	1.27902	1.27902	1.27902
8	Increase (Decrease) In Gross Revenue (L7 * L6)	$ 1,122	$ (7,750)	$ -
9	Adjusted Test Year Revenue	$ 423,775	$ 423,775	$ 423,775
10	Proposed Annual Revenue (L8 + L9)	$ 424,897	$ 416,025	$ 423,775
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	0.26%	-1.83%	0.00%

References:
Column [A]: Company's Application, Pages 15 and 19.
Column [B]: Staff Schedules CSB-2, CSB-3, & CSB-9

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Schedule CSB-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	Calculation of Gross Revenue Conversion Factor:				
1	Revenue	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	21.8149%			
5	Subtotal (L3 - L4)	78.1851%			
6	**Revenue Conversion Factor (L1 / L5)**	1.279015			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	20.9228%			
9	One Minus Combined Income Tax Rate (L7 - L8)	79.0772%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 53)	15.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	13.9548%			
17	Combined Federal and State Income Tax Rate (L13 +L16)		20.9228%		
	Calculation of Effective Property Tax Factor				
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L17)	20.9228%			
20	One Minus Combined Income Tax Rate (L18-L19)	79.0772%			
21	Property Tax Factor	1.1281%			
22	Effective Property Tax Factor (L20*L21)		0.8921%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)				21.8149%
24	Required Operating Income	$ 27,666			
25	AdjustedTest Year Operating Income (Loss)	33,725			
26	Required Increase in Operating Income (L24 - L25)		$ (6,059)		
27	Income Taxes on Recommended Revenue (Col. [C], L52)	$ 7,320			
28	Income Taxes on Test Year Revenue (Col. [A], L52)	8,923			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		(1,603)		
30	Recommended Revenue Requirement	$ 416,025			
31	Uncollectible Rate (Line 10)	0.0000%			
32	Uncolllectible Expense on Recommended Revenue (L30*L31)	$ -			
33	Adjusted Test Year Uncollectible Expense	$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32-L33)		-		
35	Property Tax with Recommended Revenue	$ 14,254			
36	Property Tax on Test Year Revenue	14,342			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		(87)		
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		$ (7,750)		

	Calculation of Income Tax:	Staff Test Year Adjusted Rev		Staff Adjusted
39	Revenue	$ 423,775	$ (7,750)	$ 416,025
40	Operating Expenses Excluding Income Taxes	$ 381,126	$ (87)	$ 381,039
41	Synchronized Interest (L56)	$ -		$ -
42	Arizona Taxable Income (L39 - L40 - L41)	$ 42,649		$ 34,986
43	Arizona State Income Tax Rate	6.9680%		6.9680%
44	Arizona Income Tax (L42 x L43)	$ 2,972		$ 2,438
45	Federal Taxable Income (L42 - L44)	$ 39,677		$ 32,548
46	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ 5,952		$ 4,882
47	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ -		$ -
48	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ -		$ -
49	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -		$ -
50	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -		$ -
51	Total Federal Income Tax	$ 5,952		$ 4,882
52	Combined Federal and State Income Tax (L44 + L51)	$ 8,923		$ 7,320
53	Applicable Federal Income Tax Rate [Col. [C], L51 - Col. [A], L51] / [Col. [C], L45 - Col. [A], L45]			15.0000%
	Calculation of Interest Synchronization:			
54	Rate Base	$ 304,022		
55	Weighted Average Cost of Debt	0.0000%		
56	Synchronized Interest (L45 X L46)	$ -		

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Schedule CSB-3

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	ADJ NO.	(C) STAFF AS ADJUSTED
1	Plant in Service	$ 1,867,642	$ (177,128)	1,2,3	$ 1,690,514
2	Less: Accumulated Depreciation	723,244	(201,425)	4	521,819
3	Net Plant in Service	$ 1,144,398	$ 24,296		$ 1,168,694
	LESS:				
4	Advances in Aid of Construction (AIAC)	$ 834,294	$ -		$ 834,294
5	Service Line and Meter Advances	$ 15,848	$ -		$ 15,848
6	Contributions in Aid of Construction (CIAC)	$ 27,816	$ -		$ 27,816
7	Less: Accumulated Amortization	15,791	-		15,791
8	Net CIAC	$ 12,025	-		$ 12,025
9	Total Advances and Contributions	$ 862,167	$ -		$ 862,167
10	Customer Deposits	$ 2,505	$ -		$ 2,505
11	Accumulated Deferred Income Taxes	$ -	$ -		$ -
	ADD:				
12	Cash Working Capital Allowance	$ -	$ -		$ -
13	Materials and Supplies Inventories	$ -	$ -		$ -
14	Prepayments	$ -	$ -		$ -
15	**Total Rate Base**	$ 279,726	$ 24,296		$ 304,022

References:
Column [A] Company's Application, Pages 14, 15, 22, 24, & 25.
Column [B]: Schedule CSB-4
Column [C]: Column [A] + Column [B]

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Schedule CSB-4

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE Acct. No. - I Plant Description	[A] COMPANY AS FILED	[B] Adj No.1 Organizational Costs Ref: Sch CSB-5	[C] Adj No. 2 Well No. 6 Retirement Ref: Sch CSB-6	[D] Adj No. 3 Inadequately Supported Plant Ref: Sch CSB-7	[E] Adj No. 4 Accumulated Depreciation Ref: Sch CSB-8	[F] STAFF AS ADJUSTED
1	301 Organization	$ 2,068	$ 4,826	$ -	$ -	$ -	$ 6,894
2	303 Land and Land Rights	-	-	-	-	-	-
3	304 Structures and Improvements	10,053	-	-	-	-	10,053
4	305 Collecting and Impound Reserviors	-	-	-	-	-	-
5	307 Wells and Springs	271,788	-	(153,746)	-	-	118,042
6	309 Supply Mains	-	-	-	-	-	-
7	311 Pumping Equipment	114,146	-	-	(865)	-	113,281
8	320.1 Water Treatment Plants	844,449	-	-	-	-	844,449
9	320.2 Water Treatment, Solution Chemical Feeders	1,105	-	-	-	-	1,105
10	330 Distribution Reservoirs and Standpipes	45,548	-	-	(5,306)	-	40,242
11	331 Transmission and Distribution Mains	490,343	-	-	(5,628)	-	484,715
12	333 Services	-	-	-	-	-	-
13	334 Meters and Meter Installations	73,348	-	-	(13,294)	-	60,054
14	335 Hydrants	2,541	-	-	(2,541)	-	-
15	336 Backflow Prevention Devices	965	-	-	(574)	-	391
16	339 Other Plant and Miscellaneous Equipment	2,853	-	-	-	-	2,853
17	340 Office Furniture and Equipment	4,688	-	-	-	-	4,688
18	340.1 Computers and Software	-	-	-	-	-	-
19	341 Transportation Equipment	-	-	-	-	-	-
20	343 Tools, Shop, and Garage Equipment	3,747	-	-	-	-	3,747
21	345 Power Operated Equipment	-	-	-	-	-	-
22	346 Communication Equipment	-	-	-	-	-	-
23	347 Miscellaneous Equipment	-	-	-	-	-	-
24	Rounding	-	-	-	-	-	-
25	Total Plant in Service	$ 1,867,642	$ 4,826	$ (153,746)	$ (28,208)	$ -	$ 1,690,514
26	Less: Accumulated Depreciation	$ 723,244	$ -	$ -	$ -	$ (201,425)	521,819
27	Net Plant in Service	$ 1,144,398	$ 4,826	$ (153,746)	$ (28,208)	$ 201,425	$ 1,168,694
28							
29	*LESS:*						
30	Advances in Aid of Construction (AIAC)	$ 834,294	$ -	$ -	$ -	$ -	$ 834,294
31	Meter Deposits - Service Line & Meter Advances	$ 15,848	-	-	-	-	$ 15,848
32	Total AIAC	$ 850,142	$ -	$ -	$ -	$ -	$ 850,142
33							
34	Contributions in Aid of Construction (CIAC)	$ 27,816	-	-	-	-	$ 27,816
35	Less: Accumulated Amortization of CIAC	$ 15,791	-	-	-	-	$ 15,791
36	Net CIAC	$ 12,025	$ -	$ -	$ -	$ -	$ 12,025
37							
38	Total Advances and Net Contributions	$ 862,167	$ -	$ -	$ -	$ -	$ 862,167
39							
40	Customer Deposits	$ 2,505	-	-	-	-	$ 2,505
41	Accumulated Deferred Taxes	$ -	-	-	-	-	$ -
42							
43	*ADD:*						
44	Cash Working Capital Allowance	$ -	-	-	-	-	$ -
45	Materials and Supplies Inventories	$ -	-	-	-	-	$ -
46	*Prepayments*	$ -	-	-	-	-	$ -
47	**Total Rate Base**	$ 279,726	$ 4,826	$ (153,746)	$ (28,208)	$ 201,425	$ 304,022

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Schedule CSB-5

RATE BASE ADJUSTMENT NO. 1 - ORGANIZATION COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 301, Organization	$ 2,068	$ -	$ 2,068
2	Reclassified from Outside Services	$ -	$ 4,826	$ 4,826
3	Total	$ 2,068	$ 4,826	$ 6,894

References:

Column [A]: Company's Application, Page 14
Column [B]: Testimony, CSB
Column [C]: Column [A] + Column [B]

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Schedule CSB-6

RATE BASE ADJUSTMENT NO. 2 - WELL NO. 6 RETIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 307, Wells and Springs	$ 271,788	$ -	$ 271,788
2	Well No. 6A	$ -	$ (153,746)	$ (153,746)
3	**Total Wells and Springs**	**$ 271,788**	**$ (153,746)**	**$ 118,042**

References:

Column [A]: Company's Application, Page 14
Column [B]: Testimony, CSB
Column [C]: Column [A] + Column [B]

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Schedule CSB-7

RATE BASE ADJUSTMENT NO. 3 - INADEQUATELY SUPPORTED PLANT COSTS

LINE NO.	DESCRIPTION	[A] Per Company	[B] Staff's Adjustment	[C] Per Staff
1	Acct No. 311 - Pumping Equipment	$ 114,146	$ (865)	$ 113,281
2	Acct No. 330.1 - Storage Tanks	45,548	(5,306)	40,242
3	Acct No. 331 - Transmission & Distribution Equipment	490,343	(5,628)	484,715
4	Acct No. 334 - Meters & Meter Installations	73,348	(13,294)	60,054
5	Acct No. 335 - Hydrants	2,541	(2,541)	-
6	Acct No. 336 - Backflow Prevention Devices	965	(574)	391
8	**Total**	$ 726,891	$ (28,208)	$ 698,683

Inadequately Supported Plant

Year	Account No.	Plant Description	Amount
1995	311	Pumping Equipment	$ 865
1997	330.1	Storage Tanks	$ 5,306
2009	331	Transmission & Distrib Mains	$ 5,628
1995	334	Meters & Meter Installations	$ 495
1996	334	Meters & Meter Installations	$ 943
1997	334	Meters & Meter Installations	$ 817
1998	334	Meters & Meter Installations	$ 285
1999	334	Meters & Meter Installations	$ 378
2005	334	Meters & Meter Installations	$ 553
2006	334	Meters & Meter Installations	$ 761
2007	334	Meters & Meter Installations	$ 1,758
2008	334	Meters & Meter Installations	$ 6,445
2010	334	Meters & Meter Installations	$ 859
			$ 13,294
2000	335	Hydrants	$ 1,497
2002	335	Hydrants	$ 1,044
			$ 2,541
1998	336	Backflow Prevention Devices	$ 574

References:

Column A: Company's Application, Pages 13 and 14
Column B: Testimony, CSB
Column C: Column [A] + Column [B]

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Schedule CSB-8

RATE BASE ADJUSTMENT NO. 4 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] Per Company	[B] Staff's Adjustment	[C] Per Staff
1	Acumulated Depreciation	$ 723,244	$ -	$ 723,244
2	Accu Depr on Inadequatley Supported Plant	$ -	$ (12,838)	$ (12,838)
3	Accu Depr on Well No. 6	$ -	$ (153,746)	$ (153,746)
4	Accu Depr on Well Abandonment	$ -	$ (34,841)	$ (34,841)
5		$ 723,244	$ (201,425)	$ 521,819

	Inadequately Supported Plant					Number of		Depreciation		Depreciation
	Year	Account No.	Plant Description	Amount		Years		Rate*		Expense
10	1995	311	Pumping Equipment	$ 865	x	17	x	5.0%	=	$ 735.3
11	1995	334	Meters & Meter Installations	$ 495	x	17	x	5.0%	=	$ 420.8
12	1996	334	Meters & Meter Installations	$ 943	x	16	x	5.0%	=	$ 754.4
13	1997	330.1	Storage Tanks	$ 5,306	x	15	x	5.0%	=	$ 3,979.5
14	1997	334	Meters & Meter Installations	$ 817	x	15	x	5.0%	=	$ 612.8
15	1998	334	Meters & Meter Installations	$ 285	x	14	x	5.0%	=	$ 199.5
16	1998	336	Backflow Prevention Devices	$ 574	x	14	x	5.0%	=	$ 401.8
17	1999	334	Meters & Meter Installations	$ 378	x	13	x	5.0%	=	$ 245.9
18	2000	335	Hydrants	$ 1,497	x	12	x	5.0%	=	$ 898.2
19	2002	335	Hydrants	$ 1,044	x	10	x	5.0%	=	$ 522.0
20	2003	340.1	Office Furn & Equip, Computers	$ 1,462	x	9	x	5.0%	=	$ 657.9
21	2005	334	Meters & Meter Installations	$ 553	x	7	x	5.0%	=	$ 193.6
22	2006	340.1	Office Furn & Equip, Computers	$ 1,098	x	6	x	5.0%	=	$ 329.4
23	2006	334	Meters & Meter Installations	$ 761	x	6	x	5.0%	=	$ 228.3
24	2007	334	Meters & Meter Installations	$ 1,758	x	5	x	5.0%	=	$ 439.5
25	2008	334	Meters & Meter Installations	$ 6,445	x	4	x	5.0%	=	$ 1,289.0
26	2009	331	Transmission & Distrib Mains	$ 5,628	x	3	x	5.0%	=	$ 844.2
27	2010	334	Meters & Meter Installations	$ 859	x	2	x	5.0%	=	$ 85.9
28				$ 30,768						$ 12,837.8

* Rate authorized in Decision No. 59739, dated July 17, 1996

References:

Column A: Company's Application, Page 21
Column B: Testimony, CSB
Column C: Column [A] + Column [B]

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Schedule CSB-9

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

Sales for Resale - City of Goodyear

Line No.	Acct. No.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	ADJ NO.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF ADJUSTED
1		*REVENUES:*						
2	461	Metered Water Revenue	$ 320,317	$ (1,552)	1	$ 318,765	$ (7,750)	$ 311,015
3	460	Other Operating Revenues	103,458	$ (90,822)	1	12,636	-	12,636
4	466	Sales for Resale - City of Goodyear	-	$ 92,374	1	92,374	-	92,374
5		**Total Revenues**	$ 423,775	$ -		$ 423,775	$ (7,750)	$ 416,025
6								
7		*EXPENSES:*						
8	601	Salaries and Wages	$ 103,261	$ -		$ 103,261	$ -	$ 103,261
9	610	Purchased Water	43,584	-		43,584	-	43,584
10	615	Purchased Power	26,809	(5,073)	2	21,736	-	21,736
11	618	Chemicals	11,453	-		11,453	-	11,453
12	620	Repairs & Maint	62,301	(20,297)	3	42,004	-	42,004
13	621	Office Supplies & Expenses	18,673	(8,400)	6	10,273	-	10,273
14	630	Outside Services	20,967	(8,054)	4	12,913	-	12,913
15	635	Water Testing	2,402	287	5	2,689	-	2,689
16	641	Rents	-	8,400	6	8,400	-	8,400
17	650	Transportation Expenses	15,417	-		15,417	-	15,417
18	657	Insurance - General Liability	6,797	-		6,797	-	6,797
19	659	Insurance - Health and Life	4,036	-		4,036	-	4,036
20	666	Reg. Comm. Exp. - Rate Case	-	9,842	7	9,842	-	9,842
21	675	Miscellaneous Expense	4,514	-		4,514	-	4,514
22	403	Depreciation	57,335	4,696	8	62,031	-	62,031
23	408	Taxes Other Than Income	7,834	-		7,834	-	7,834
24	408	Property Taxes	10,910	3,432	9	14,342	(87)	14,254
25	409	Income Taxes	-	8,923	10	8,923	(1,603)	7,320
26		**Total Operating Expenses**	396,293	(6,243)		390,050	(1,691)	388,359
27								
28		**Operating Income (Loss)**	$ 27,482	$ 6,243		$ 33,725	$ (6,059)	$ 27,666

References:
Column (A): Company's Application, Page 19
Column (B): Schedule CSB-10
Column (C): Column (A) + Column (B)
Column (D): Schedules CSB-1 and CSB-2
Column (E): Column (C) + Column (D)

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Schedule CSB-10

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

Line No.	Acct. No.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Water Revenue Reclassification	[C] ADJ #2 Purchased Power Expense	D] ADJ #3 Repairs & Maintenance Expense	[E] ADJ #4 Outside Services Expense	[F] ADJ #5 Water Testing Expense	[G] ADJ #6 Rents Expense Reclassification	[H] ADJ #7 Rate Case Expense	[J] ADJ #8 Depreciation Expense	[K] ADJ #9 Property Taxes	[L] ADJ #10 Income Taxes	[M] STAFF ADJUSTED
1		*REVENUES:*		Ref: Sch CSB-11	Ref: Sch CSB-12	Ref: Sch CSB-13	Ref: Sch CSB-14	Ref: Sch CSB-15	Ref: Sch CSB-16	Ref: Sch CSB-17	Ref: Sch CSB-18	Ref: Sch CSB-19	Ref: Sch CSB-20	
2	461	Metered Water Revenue	$ 320,317	$ (1,552)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 318,765
3	460	Other Operating Revenues	103,458	(90,822)	-	-	-	-	-	-	-	-	-	12,636
4	466	Sales for Resale - City of Goodyear	-	92,374	-	-	-	-	-	-	-	-	-	92,374
5		**Total Revenues**	$ 423,775	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 423,775
6														
7		*OPERATING EXPENSES:*												
8	601	Salaries and Wages	$ 103,261	-	-	-	-	-	-	-	-	-	-	$ 103,261
9	610	Purchased Water	43,584	-	-	-	-	-	-	-	-	-	-	43,584
10	615	Purchased Power	26,809	-	(5,073)	-	-	-	-	-	-	-	-	21,736
11	618	Chemicals	11,453	-	-	-	-	-	-	-	-	-	-	11,453
12	620	Repairs & Maint	62,301	-	-	(20,297)	-	-	-	-	-	-	-	42,004
13	621	Office Supplies & Expenses	18,673	-	-	-	-	-	(8,400)	-	-	-	-	10,273
14	630	Outside Services	20,967	-	-	-	(8,054)	-	-	-	-	-	-	12,913
15	635	Water Testing	2,402	-	-	-	-	287	-	-	-	-	-	2,689
16	641	Rents	-	-	-	-	-	-	8,400	-	-	-	-	8,400
17	650	Transportation Expenses	15,417	-	-	-	-	-	-	-	-	-	-	15,417
18	657	Insurance - General Liability	6,797	-	-	-	-	-	-	-	-	-	-	6,797
19	659	Insurance - Health and Life	4,036	-	-	-	-	-	-	-	-	-	-	4,036
20	666	Reg. Comm. Exp. - Rate Case	-	-	-	-	-	-	-	9,842	-	-	-	9,842
21	675	Miscellaneous Expense	4,514	-	-	-	-	-	-	-	-	-	-	4,514
22	403	Depreciation	57,335	-	-	-	-	-	-	-	4,696	-	-	62,031
23	408	Taxes Other Than Income	7,834	-	-	-	-	-	-	-	-	-	-	7,834
24	408	Property Taxes	10,910	-	-	-	-	-	-	-	-	3,432	-	14,342
25	409	Income Taxes	-	-	-	-	-	-	-	-	-	-	8,923	8,923
26		**Total Operating Expenses**	$ 396,293	$ -	$ (5,073)	$ (20,297)	$ (8,054)	$ 287	$ -	$ 9,842	$ 4,696	$ 3,432	$ 8,923	$ 390,050
27														
28		**Operating Income (Loss)**	$ 27,482	$ -	$ 5,073	$ 20,297	$ 8,054	$ (287)	$ -	$ (9,842)	$ (4,696)	$ (3,432)	$ (8,923)	$ 33,725

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Schedule CSB-11

OPERATING INCOME ADJUSTMENT NO. 1 - WATER REVENUE RECLASSIFICATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (CSB 2.11)	[C] STAFF AS ADJUSTED	
1	461- Metered Water Sales	$ 320,317	$ (1,552)	$ 318,765	From Line 11
2	460- Other Operating Revenues	103,458	(90,822)	12,636	From Line 19
3	466- Sales for Resale, City of Goodyear	-	92,374	92,374	
4	**Total**	$ 423,775	$ -	$ 423,775	
5					
6					
7					
8				Metered Water Revenue	
9			Service Connections	$ (300)	
10			Late Fees	$ (1,252)	
11				$ (1,552)	
12					
13					
14					
15				Other Operating Revenue	
16			City of Goodyear	$ (92,374)	
17			Service Connections	$ 300	
18			Late Fees	$ 1,252	
19				$ (90,822)	

References:

Column A: Company Income Statement, Page 19 of application
Column B: Testimony, CSB; CSB 2.11
Column C: Column [A] + Column [B]

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Schedule CSB-12

OPERATING INCOME ADJUSTMENT NO. 2 - PURCHASED POWER EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Purchased Power	$ 26,809	$ (5,073)	$ 21,736

References:

Column A: Company Income Statement, Page 19 of application

Column B: Testimony, CSB; Data Request CSB 2.10

Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 2 - REPAIRS AND MAINTENANCE EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED	
1	Repairs and Maintenance Expense	$ 62,301	$ -	$ 62,301	
2	Additional Expense Supported by Invoices	$ -	$ 48,011	$ 48,011	
3	To Normalize Arsenic Media Replacement Costs	$ -	$ (33,468)	$ (33,468)	
4	To Remove Well Abandonment Costs	$ -	$ (34,840)	$ (34,840)	From Sch CSB-13, P.2
5	Total	$ 62,301	$ (20,297)	$ 42,004	

	Normalized Arsenic Media Costs	
	CSB 2.7	
Actual Cost of Arsenic Media	$ 66,935	
Divided by	2	Years
	$ 33,468	

References:

Column A: Company Income Statement, Page 19 of application

Column B: Testimony, CSB; Company Data Request Responses to CSB 2.7

Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 2 - REPAIRS AND MAINTENANCE EXPENSE CONTINUED

Page ID No.	Date	Vendor	Invoice No.	Amount	
1	12/31/2011	Adaman I.W.D.D. No. 36	211	$ 350.00	
2	10/31/2011	Adaman I.W.D.D. No. 36	209	$ 472.50	
3	9/30/2011	Adaman I.W.D.D. No. 36	208	$ 1,181.65	
4	7/31/2011	Adaman I.W.D.D. No. 36	206	$ 316.00	
5	6/30/2011	Adaman I.W.D.D. No. 36	205	$ 479.34	
9	11/8/2011	Brown Evans Distributing	728467	$ 1,230.85	
11	9/21/2011	Chemical Feeding Tech.	31627	$ 386.92	
12	9/14/2011	Electric Services & Control Systems	7701	$ 177.98	
13	10/10/2011	Electric Services & Control Systems	7748	$ 99.00	
15	7/5/2011	Electric Services & Control Systems	7596	$ 149.86	
16	11/2/2011	Electric Services & Control Systems	7793	$ 82.50	
17	12/5/2011	Electric Services & Control Systems	7815	$ 170.00	
23	8/1/2011	Not Identified	126441	$ 40.62	
23	8/4/2011	Not Identified	126590	$ 142.63	
24	9/6/2011	Not Identified	127702	$ 4.89	
25	12/1/2011	Not Identified	130910	$ 4.92	
26	12/19/2011	HD Supply Waterworks	4194631	$ 404.56	
27	12/14/2011	HD Supply Waterworks	4147203	$ 178.33	
28	11/10/2011	HD Supply Waterworks	4001615	$ 524.04	
29	10/3/2011	HD Supply Waterworks	4001615	$ 359.38	
30	10/27/2011	Harrington Industrial Plastics	015G1792	$ 74.60	
31	11/17/2011	Hennesy Mechanical Sales	9223	$ 66,935.00	Arsenic Media
32	9/28/2011	Power Plus	S00792-416990	$ 394.63	
33	9/2/2011	Power Plus	S00792-412590	$ 566.88	
34	8/22/2011	USA BlueBook	472290	$ 372.42	
35	6/16/2011	USA BlueBook	422997	$ 372.46	
37	8/31/2011	Weber Group, L.C.	2081-218	$ 29,857.82	Well Abandonment
39	9/30/2011	Weber Group, L.C.	2081-218	$ 4,982.57	Well Abandonment
				$ 110,312.35	

OPERATING INCOME ADJUSTMENT NO. 4 - OUTSIDE SERVICES EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	2011 Actual Outside Services - Other Expense	$ 20,967	$ -	$ 20,967
2	Costs Incurred to Change Corporation Status	-	(4,826)	(4,826)
3	Normalize City of Goodyear Contract Costs	-	(3,228)	(3,228)
4		$ 20,967	$ (8,054)	$ 12,913
5				
6				
7				Normalize City of Goodyear Contract Costs
8				
9				
10				$ 4,794
11			Divided by 3	3
12			Normalized Costs	$ 1,598
13				
14			City of Goodyear contract costs (Sch CSB-14, p.2)	$ 4,826
15			Less: Amount Allowed	$ 1,598
16			Staff's Adjustment	$ 3,228

References:

Column A: Company Income Statement, Page 19 of application

Column B: Testimony, CSB

Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 4 - OUTSIDE SERVICES EXPENSE
CONTINUED

Date	Vendor	Description	Invoice No.	Amount
7/11/2011	Ryley Carlock	Water Sales to City of Goodyear	202012	$ 765.00
7/8/2011	Ryley Carlock	Water Sales to City of Goodyear	204025	$ 765.00
4/6/2012	Ryley Carlock	Water Sales to City of Goodyear	213762	$ 212.50
10/13/2011	Ryley Carlock	Water Sales to City of Goodyear	205956	$ 212.50
10/13/2011	Ryley Carlock	Water Sales to City of Goodyear	205957	$ 432.00
8/22/2011	Coo & Van Loo	Determination of Fee Schedules	32743	$ 1,590.72
11/18/2011	Coo & Van Loo	Determination of Fee Schedules	33193	$ 622.15
12/17/2011	Coo & Van Loo	Determination of Fee Schedules	33345	$ 193.75
				$ 4,793.62
8/5/2011	Ryley Carlock	Changing Corporation Status	203012	$ 3,721.00
9/8/2011	Ryley Carlock	Changing Corporation Status	204026	$ 547.50
11/16/2011	Ryley Carlock	Changing Corporation Status	207756	$ 348.50
12/14/2011	Ryley Carlock	Changing Corporation Status	209004	$ 209.00
				$ 4,826.00
7/26/2011	Meese, LLP	Annual Accounting Services	18796	$ 3,619.50
8/31/2011	Meese, LLP	Income Tax Preparation	18957	$ 1,584.08
8/31/2011	Meese, LLP	Financial Statement Preparation	18954	$ 4,383.20
6/7/2012	Meese, LLP	Financial Statement Preparation	20183	$ 1,844.00
				$ 11,430.78
			Invoice Totals	$ 21,050.40

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Schedule CSB-15

OPERATING INCOME ADJUSTMENT NO. 5 - WATER TESTING EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Water Testing	$ 2,402	$ 287	$ 2,689

References:

Column A: Company Income Statement, Page 19 of application

Column B: Testimony, CSB

Column C: Column [A] + Column [B]

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Schedule CSB-16

OPERATING INCOME ADJUSTMENT NO. 4 - RENTS EXPENSE RECLASSIFICATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Rents Expense	$ -	$ -	$ -
2	To Reclassify to Rents Expense	-	8,400	8,400
3	Total Rents Expense	-	8,400	8,400
4				
5	Office Supplies and Expenses	$ 18,673	$ -	$ 18,673
6	To Reclassify to Rents Expense	-	(8,400)	(8,400)
7	Total Office Supplies and Expenses	18,673	(8,400)	10,273

References:

Column A: Company Income Statement, Page 19 of application
Column B: Testimony, CSB; Data Request CSB 2.3
Column C: Column [A] + Column [B]

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Schedule CSB-17

OPERATING INCOME ADJUSTMENT NO. 7 - RATE CASE EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Rate Case Expense	-	$ 9,842	$ 9,842
2				
3				
4			Rate Case Expense	
5				
6			$ 29,526	
7		Divided by	3	
8			$ 9,842	

References:

Column A: Company Income Statement, Page 19 of application
Column B: Testimony, CSB; Data Request CSB 2.14
Column C: Column [A] + Column [B]

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Schedule CSB-18

OPERATING INCOME ADJUSTMENT NO. 8 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.		DESCRIPTION	[A] PLANT In SERVICE Per Staff	[B] NonDepreciable or Fully Depreciated PLANT	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	301	Organization	$ 6,894	$ 6,894	$ -	0.00%	$ -
2	303	Land and Land Rights	-	-	-	0.00%	-
3	304	Structures and Improvements	10,053	-	10,053	3.33%	335
4	305	Collecting and Impound Reserviors	-	-	-	2.50%	-
5	307	Wells and Springs	118,042	-	118,042	3.33%	3,931
6	309	Supply Mains	-	-	-	2.00%	-
7	311	Pumping Equipment	113,281	-	113,281	12.50%	14,160
8	320.1	Water Treatment Equipment	844,449	-	844,449	3.33%	28,120
9	320.2	Water Treatment Plant, Solution Chemical Feeders	1,105	-	1,105	20.00%	221
10	330	Distribution Reservoirs and Standpipes	40,242	-	40,242	2.22%	893
11	331	Transmission and Distribution Mains	484,715	-	484,715	2.00%	9,694
12	333	Services	-	-	-	3.33%	-
13	334	Meters and Meter Installations	60,054	-	60,054	8.33%	5,002
14	335	Hydrants	-	-	-	2.00%	-
15	336	Backflow Prevention Devices	391	-	391	6.67%	26
16	339	Other Plant and Miscellaneous Equipment	2,853	-	2,853	6.67%	190
17	340	Office Furniture and Equipment	4,688	-	4,688	6.67%	313
18	340.1	*Computers and Software*	-	-	-	20.00%	-
19	341	Transportation Equipment	-	-	-	20.00%	-
20	343	Tools, Shop, and Garage Equipment	3,747	-	3,747	5.00%	187
21	345	Power Operated Equipment	-	-	-	5.00%	-
22	346	Communication Equipment	-	-	-	10.00%	-
23	347	Miscellaneous Equipment	-	-	-	10.00%	-
24							
25		Total Plant	$ 1,690,514	$ -	$ 1,683,620		$ 63,073
26							
27							
28							

29	Composite Depreciation Rate (Depr Exp / Depreciable Plant):	3.75%
30	CIAC:	$ 27,816
31	Amortization of CIAC (Line 29 x Line 30):	$ 1,042
32		
33	Depreciation Expense Before Amortization of CIAC:	$ 63,073
34	Less Amortization of CIAC:	$ 1,042
35	Test Year Depreciation Expense - Staff:	$ 62,031
36	Depreciation Expense - Company:	57,335
37	**Staff's Total Adjustment:**	**$ 4,696**

References:
Column [A]: Schedule CSB-4
Column [B]: From Column [A]
Column [C]: Column [A] - Column [B]
Column [D]: Engineering Staff Report
Column [E]: Column [C] x Column [D]

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Schedule CSB-19

OPERATING INCOME ADJUSTMENT NO. 9 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF ADJUSTED TO DECREASE
1	Staff Adjusted Test Year Revenues	$ 423,775	$ 423,775
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	847,550	$ 847,550
4	Staff Recommended Revenue, Per Schedule CSB-1	423,775	$ 416,025
5	Subtotal (Line 3 + Line 4)	1,271,325	1,263,575
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	423,775	$ 421,192
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	847,550	$ 842,383
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	-	$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	847,550	$ 842,383
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	177,986	$ 176,901
15	Composite Property Tax Rate	8.0578%	8.0578%
			$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	$ 14,342	
17	Company Proposed Property Tax	10,910	
18	Staff Test Year Adjustment (Line 16-Line 17)	$ 3,432	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		$ 14,254
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		$ 14,342
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		$ (87)
22	Increase to Property Tax Expense		$ (87)
23	Increase in Revenue Requirement		(7,750)
24	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		1.128090%

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Schedule CSB-20

OPERATING INCOME ADJUSTMENT NO. 10 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	(A)	(B)
	Calculation of Income Tax:	Test Year	
1	Revenue	$ 423,775	
2	Less: Operating Expenses - Excluding Income Taxes	$ 381,126	
3	Less: Synchronized Interest (L17)	$ -	
4	Arizona Taxable Income (L1- L2 - L3)	$ 42,649	
5	Arizona State Income Tax Rate	6.968%	
6	Arizona Income Tax (L4 x L5)		$ 2,972
7	Federal Taxable Income (L4 - L6)	$ 39,677	
8	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ 5,952	
9	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ -	
10	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ -	
11	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -	
12	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -	
13	Total Federal Income Tax		$ 5,952
14	Combined Federal and State Income Tax (L6 + L13)		$ 8,923
	Calculation of Interest Synchronization:		
15	Rate Base	$ 304,022	
16	Weighted Average Cost of Debt	0.00%	
17	Synchronized Interest (L16 x L17)	$ -	
18	Income Tax - Per Staff	$ 8,923	
19	Income Tax - Per Company	$ -	
20	**Staff Adjustment**	**$ 8,923**	

	Present	Company Proposed	Staff Recommended
Monthly Minimum Charge			
Meter Size (All Classes):			
5/8 Inch x 3/4 Inch	$ 10.00	$ 10.00	$ 10.00
3/4 Inch	12.50	12.50	12.50
1 Inch	16.00	16.00	16.00
1 1/2 Inch	25.00	25.00	25.00
2 Inch	35.00	35.00	35.00
3 Inch	75.00	75.00	75.00
4 Inch	100.00	100.00	100.00
6 Inch	200.00	200.00	200.00
Gallons Included In Monthly Minimum Charge	0	0	0
Commodity Charge - Per One Thousand Gallons			
All Meter Sizes			
Per thousand for all gallons	$ 2.00	$ 2.00	N/A
5/8x3/4 Inch - Residential			
First 3,000 gallons	N/A	N/A	$ 1.5000
3,001 gallons to 10,000 gallons	N/A	N/A	2.0900
Over 10,000 gallons	N/A	N/A	2.7000
5/8x3/4 Inch - Commercial			
First 10,000 gallons	N/A	N/A	2.0900
Over 10,000 gallons	N/A	N/A	2.7000
3/4 Inch Meter - Residential			
First 3,000 gallons	N/A	N/A	1.5000
3,001 gallons to 10,000 gallons	N/A	N/A	2.0900
Over 10,000 gallons	N/A	N/A	2.7000
3/4 Inch Meter - Commercial			
First 10,000 gallons	N/A	N/A	2.0900
Over 10,000 gallons	N/A	N/A	2.7000
1 Inch Meter - Residential			
First 3,000 gallons	N/A	N/A	$ 1.5000
3,001 gallons to 10,000 gallons	N/A	N/A	2.0900
Over 10,000 gallons	N/A	N/A	2.7000
1 Inch Meter - Commercial			
First 10,000 gallons	N/A	N/A	2.0900
Over 10,000 gallons	N/A	N/A	2.7000
1.5 Inch Meter (Residential & Commercial)			
First 23,000 gallons	N/A	N/A	2.0900
Over 23,000 gallons	N/A	N/A	2.7000
2 Inch Meter - (Residential & Commercial)			
First 38,000 gallons	N/A	N/A	2.0900
Over 38,000 gallons	N/A	N/A	2.7000
3 Inch Meter - (Residential & Commercial)			
First 102,000 gallons	N/A	N/A	2.0900
Over 102,000 gallons	N/A	N/A	2.7000
4 Inch Meter - (Residential & Commercial)			
First 141,000 gallons	N/A	N/A	2.0900
Over 141,000 gallons	N/A	N/A	2.7000

	Present	Company Proposed	Staff Recommended
Commodity Charge - Per One Thousand Gallons Continued			
6 Inch Meter - (Residential & Commercial)			
First 303,000 gallons	N/A	N/A	2.0900
Over 303,000 gallons	N/A	N/A	2.7000

	Present	Company Proposed	Staff Recommended
Miscellaneous Charges			
Establishment	$ 12.50	$ 12.50	$ 12.50
Establishment (After Hours)	25.00	25.00	Eliminate
Reconnection (Deliquent)	12.50	12.50	12.50
Meter Test (If Correct)	15.00	15.00	15.00
Deposit	*	*	*
Deposit Interest	*	0.75%	*
Reestablishment (Within 12 Months)	**	**	**
NSF Check	10.00	35.00	12.00
Deferred Payment, Per Month	***	***	***
Meter Re-read (If Correct)	NT	15.00	15.00
Late Payment Fee (Per Month)	***	***	***
After hours service charge (At the Customer's Request)	NT	NT	25.00

* Per A. A. C. R-14-2-403 (B)
** Number of months off the system times the monthly minimum.
*** 1.50 percent per month of unpaid balance

Fire Sprinklers	Note 1	Note 1	Note 2

Note 1 - Present and Proposed Rates are 1% of monthly minimum for comparable sized meters, but not less than $5.00 per month
Note 2 - Staff's recommended monthly charges are 2% of the monthly minimum for an equivalent sized meter or $10, whichever is greater, for all meter sizes.

NT = No Tariff

	Total Present Charge	Company Proposed Service Line Charge	Company Proposed Meter Installation Charge	Total Company Proposed Charge
Service and Meter Installation Charges				
5/8 x 3/4 Inch	$ 350	No Tariff	No Tariff	$ 600
3/4 Inch	$ 375	No Tariff	No Tariff	$ 700
1 Inch	$ 425	No Tariff	No Tariff	$ 810
1 1/2 Inch	$ 665	No Tariff	No Tariff	$ 1,075
2 Inch	$ 1,080	No Tariff	No Tariff	$ 1,875
3 Inch	$ 1,460	No Tariff	No Tariff	$ 2,715
4 Inch	$ 1,995	No Tariff	No Tariff	$ 4,160
6 Inch	$ 4,450	No Tariff	No Tariff	$ 7,235

	Total Present Charge	Staff Recommended Service Line Charge	Staff Recommended Meter Installation Charge	Total Staff Recommended Charge
5/8 x 3/4 Inch	$ 350	$ 445	$ 155	$ 600
3/4 Inch	$ 375	$ 455	$ 255	$ 710
1 Inch	$ 425	$ 495	$ 315	$ 810
1 1/2 Inch	$ 665	$ 550	$ 525	$ 1,075
2 Inch	$ 1,080	$ 830	$ 1,045	$ 1,875
3 Inch	$ 1,460	$ 1,045	$ 1,670	$ 2,715
4 Inch	$ 1,995	$ 1,490	$ 2,670	$ 4,160
6 Inch	$ 4,450	$ 2,210	$ 5,025	$ 7,235

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Schedule CSB-22

Typical Bill Analysis
Residential 1-Inch Meter

Company Proposec	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	19,986	$ 55.97	$ 55.97	$ -	0.00%
Median Usage	10,214	$ 36.43	$ 36.43	$ -	0.00%
Staff Recommended					
Average Usage	19,986	$ 55.97	62.09	$ 6.12	10.93%
Median Usage	10,214	36.43	35.71	$ (0.72)	-1.98%

Present & Proposed Rates (Without Taxes)
Residential 1-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	$ 16.00	$ 16.00	0.00%	$ 16.00	0.00%
1,000	18.00	18.00	0.00%	17.50	-2.78%
2,000	20.00	20.00	0.00%	19.00	-5.00%
3,000	22.00	22.00	0.00%	20.50	-6.82%
4,000	24.00	24.00	0.00%	22.59	-5.88%
5,000	26.00	26.00	0.00%	24.68	-5.08%
6,000	28.00	28.00	0.00%	26.77	-4.39%
7,000	30.00	30.00	0.00%	28.86	-3.80%
8,000	32.00	32.00	0.00%	30.95	-3.28%
9,000	34.00	34.00	0.00%	33.04	-2.82%
10,000	36.00	36.00	0.00%	35.13	-2.42%
20,000	56.00	56.00	0.00%	62.13	10.95%
25,000	66.00	66.00	0.00%	75.63	14.59%
50,000	116.00	116.00	0.00%	143.13	23.39%
75,000	166.00	166.00	0.00%	210.63	26.89%
100,000	216.00	216.00	0.00%	278.13	28.76%
125,000	266.00	266.00	0.00%	345.63	29.94%
150,000	316.00	316.00	0.00%	413.13	30.74%
175,000	366.00	366.00	0.00%	480.63	31.32%
200,000	416.00	416.00	0.00%	548.13	31.76%

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP
Chairman
GARY PIERCE
Commissioner
BRENDA BURNS
Commissioner
BOB BURNS
Commissioner
SUSAN BITTER SMITH
Commissioner

IN THE MATTER OF THE APPLICATION OF ADAMAN MUTUAL WATER COMPANY FOR APPROVAL OF A RATE INCREASE	))))	DOCKET NO. W-01997A-12-0501

DIRECT

TESTIMONY

OF

KATRIN STUKOV

UTILITIES ENGINEER

ARIZONA CORPORATION COMMISSION

UTILITIES DIVISION

AUGUST 7, 2013

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EXHIBITS

INTRODUCTION

Q. Please state your name, place of employment and job title.

A. My name is Katrin Stukov. My place of employment is the Arizona Corporation Commission ("Commission"), Utilities Division ("Staff"), 1200 West Washington Street, Phoenix, Arizona 85007. My job title is Utilities Engineer.

Q. How long have you been employed by the Commission?

A. I have been employed by the Commission since June 2006.

Q. Please list your duties and responsibilities.

A. As a Utilities Engineer, specializing in water and wastewater engineering, I inspect and evaluate water and wastewater systems, obtain data, prepare reports, suggest corrective action, provide technical recommendations on water and wastewater system deficiencies, and provide written and oral testimony on rate and other cases before the Commission.

Q. How many cases have you analyzed for the Utilities Division?

A. I have analyzed over 80 cases covering various responsibilities for the Utilities Division.

Q. What is your educational background?

A. I graduated from the Moscow University of Civil Engineering with a Bachelor of Science degree in Civil Engineering with a concentration in water and wastewater systems.

Q. Briefly describe your pertinent work experience.

A. Prior to my employment with the Commission, I was a design review environmental engineer with the Arizona Department of Environmental Quality ("ADEQ") for twenty years. My responsibilities with ADEQ included review of projects for the construction of

water and wastewater facilities. Prior to that, I worked as a civil engineer in several engineering and consulting firms, including Bechtel, Inc. and Brown & Root, Inc., in Houston, Texas.

PURPOSE OF TESTIMONY

Q. Were you assigned to provide the Staff's engineering analysis and recommendations for this Adaman Mutual Water Company ("Adaman" or "Company") rate case proceeding?

A. Yes. I reviewed the Company's application and responses to data requests, and I visited the water system. This testimony and its attachment present Staff's engineering evaluation.

ENGINEERING REPORT

Q. Please describe the attached Engineering Report, Exhibit KS.

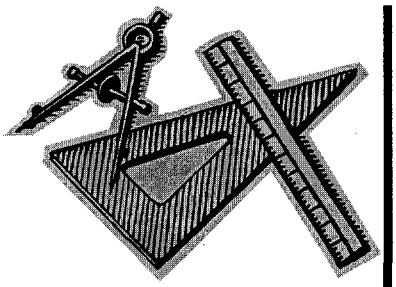
A. Exhibit KS presents Adaman's water system details and Staff's analysis and findings, and is attached to this Direct Testimony. Exhibit KS contains the following major topics: (1) a description and analysis of the water system, (2) water use, (3) growth, (4) compliance with the rules of ADEQ and the Arizona Department of Water Resources, (5) depreciation rates and (6) Staff's conclusions and recommendations.

Q. Please summarize Staff's engineering conclusions and recommendations.

A. Such a summary is provided at the front of Exhibit KS.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.



Engineering Report For
Adaman Mutual Water Company
Docket No. W-01997A-12-0501 (Rates)
By Katrin Stukov
Utilities Engineer
May 1, 2013

SUMMARY

Conclusions

1. The Arizona Department of Environmental Quality ("ADEQ") or its formally delegated agent, the Maricopa County Environmental Services Department ("MCESD"), has reported that the Adaman Mutual Water Company's ("Adaman" or "Company") water system (PWS No. 07-001) is currently delivering water that meets water quality standards required by 40 C.F.R. 141 (National Primary Drinking Water Regulations) and Arizona Administrative Code, Title 18, Chapter 4.

2. The Company's water system has a water loss of 8.5 percent. This percentage is within the acceptable limit of 10 percent.

3. Based on the Company's water use data for the test year, Staff concludes that the Company's water system has adequate water supply, but lacks adequate storage capacity to serve the present customer base.

4. The Company's water system is located in the Phoenix Active Management Area ("AMA").

5. The Arizona Department of Water Resources ("ADWR") has determined that the Adaman water system is currently in compliance with ADWR requirements governing water providers and/or community water systems.

6. The Company has no outstanding Arizona Corporation Commission ("ACC") compliance issues.

7. The Company has an approved backflow prevention tariff.

8. The Company has an approved curtailment plan tariff.

Recommendations

1. Staff recommends that the Company file with Docket Control as a compliance item in this docket by May 31, 2014, a copy of the ADEQ Approval of Construction for the new Well No. 1C.

2. Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 90 days of the effective date of this Decision, at least three BMPs in the form of tariffs that conform to the templates created by Staff for the Commission's review and consideration. The templates created by Staff are available on the Commission's website at http://www.azcc.gov/Divisions/Utilities/forms.asp. The Company may request cost recovery of actual costs associated with the BMPs implemented in its next general rate application.

3. Staff recommends its annual water testing expense estimate of $2,689 be used for this proceeding.

4. Staff recommends the depreciation rates delineated in Table B, on a going forward basis.

5. Staff recommends its service line and meter installation charges labeled "Staff's Recommendation" in Table C.

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I. INTRODUCTION AND LOCATION OF COMPANY

On December 28, 2012, Adaman Mutual Water Company ("Adaman" or "Company") filed a rate application with the Arizona Corporation Commission ("ACC" or "Commission").

The Adaman water system is located in Litchfield Park, Maricopa County and provides potable water service to over 260 customers[1].

A separate entity, the Adaman Irrigation District ("District"), shares its well with the Company[2] and provides non-potable irrigation water service to the same customer base.

Also, in March 2011 the Company started selling untreated water to the City of Goodyear ("Goodyear") via Well No. 1 and Well No. 2[3], constructed and maintained by Goodyear per a Bulk Water Sales and Treatment Agreement between the Company and Goodyear ("Goodyear Sales Agreement") dated August 27, 2007.

The Company's certificated area covers approximately 4.4 square miles (approximately 2,834 acres). Figure 1 shows the location of Adaman within Maricopa County, Figures 2 and 3 delineate the Company's certificated area.

The Adaman plant facilities were visited on March 14, 2013, by Katrin Stukov, Staff Utilities Engineer, accompanied by the Company's representative, David Schofield.

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[1] The Company reported 214 residential and 47 commercial customers during 2012 (with one customer, a farm, in a contiguous area).

[2] The Company and the District are sharing the District's Well #1B, per the Water Facilities Sharing Agreement dated August 21, 2002.

[3] These two Company wells are located in Adaman's certificated area, but are not connected to the Company's water system.

Figure 1

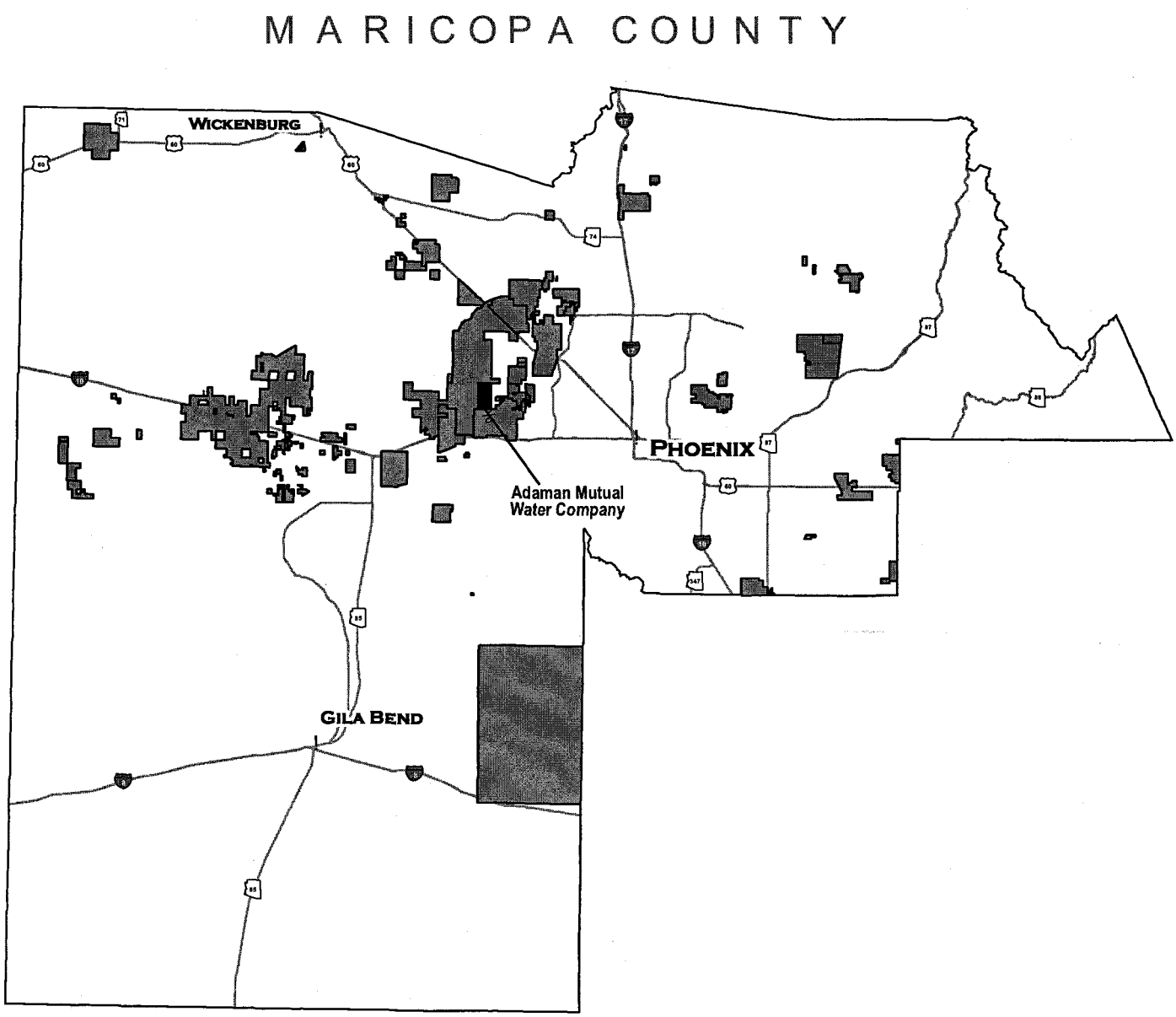

MARICOPA COUNTY
WICKENBURG
PHOENIX
Adaman Mutual
Water Company
GILA BEND

Figure 2

MARICOPA COUNTY

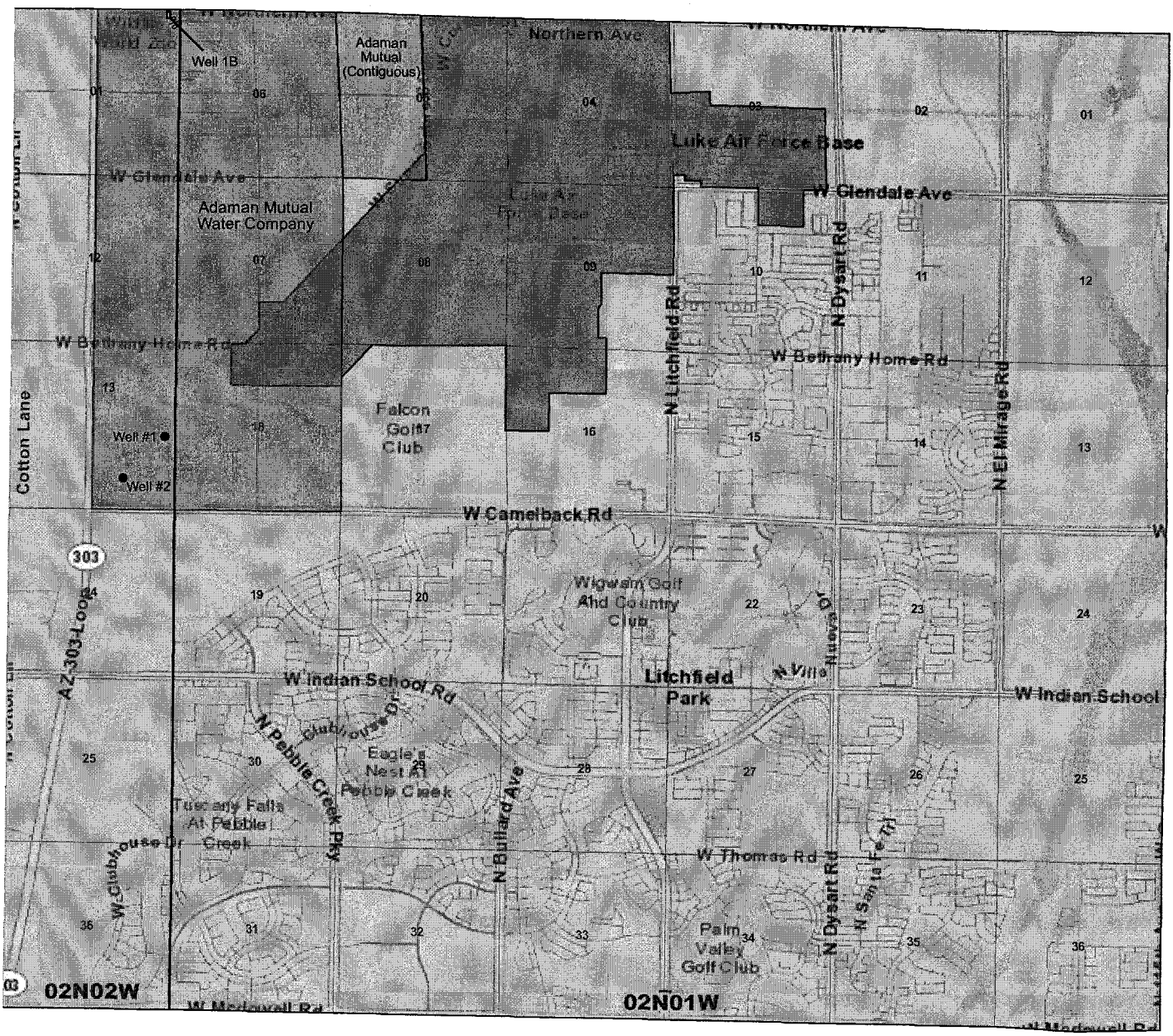
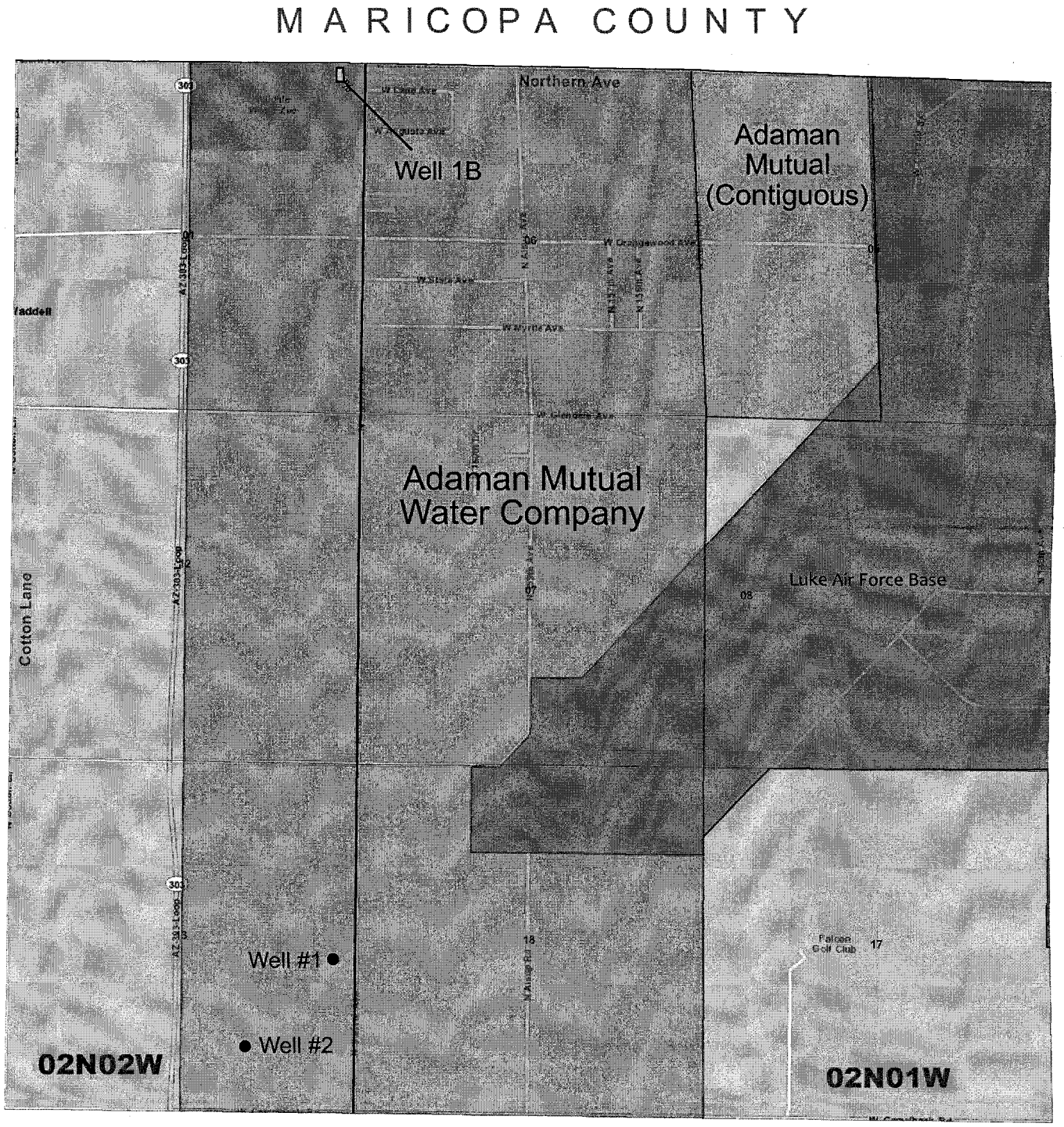


Figure 3


MARICOPA COUNTY
Northern Ave
Well 1B
Adaman Mutual (Contiguous)
Adaman Mutual Water Company
Luke Air Force Base
Cotton Lane
Well #1
Well #2
02N02W
02N01W
Palmas Golf Club

II. WATER SYSTEM

1. Description of the Water System

In March 2011, Adaman stopped using its Well No. 6A and related components due to high Nitrate levels, and now relies on water purchased from the District's Well No. 1B.[4] The Company's arsenic removal system ("ARS"), constructed per the Goodyear Sales Agreement, provide arsenic treatment for the purchased water. The ARS treats only a portion of the well production. A bypass blending system is utilized to combine the non-treated portion of well water with treated water, resulting in a maximum production capacity of approximately 750 gallons per minute ("GPM").[5]

The current operation of the Adaman water system consists of one ARS, one storage tank, one pressure tank, three booster pumps and a distribution system serving approximately 260 service connections.

A water system schematic is shown in Figure 4 and a plant facilities summary[6] is tabulated below:

Well and Components
(not in use)

Company Well ID	ADWR Well ID	Pump (HP)	Pump Yield (GPM)	Casing Depth (feet)	Casing Diameter (inches)	Meter Size (inches)	Year Drilled	Structures/ Components
6A	55-620807	100	none	1,089	14/12	6	1979	Sand separator Chlorine house Fence

Other Water Source
(District Well)

District Well ID	ADWR Well ID	Meter Size (in inches)	Capacity (GPM)	Gallons Purchased
1B	55-588576	8	1,250	144,269,000

[4] The Company and the District are sharing the District's Well#1B, per the Water Facilities Sharing Agreement dated August 21, 2002.
[5] Per Company's responses to data requests
[6] Per Company's application, responses to data requests and site visit.

Other Water Sources
(Wells are not connected to the Adaman system) [7]

Company Well ID	ADWR Well ID	Meter Size (in inches)	Capacity (GPM)	Gallons Sold to Goodyear
1	55-218274	10	1,500	383,057,402
2	55-218768	8	600	41,412,404

Storage Tanks		Pressure Tanks		Booster Pumps		Structures/ Components
Capacity (gallons)	Quantity	Capacity (gallons)	Quantity	Capacity (HP)	Quantity	
200,000	1	5,000	1	10	1	Power Generator
				15	1	Chain link Fence
				30	1	

Arsenic Removal System

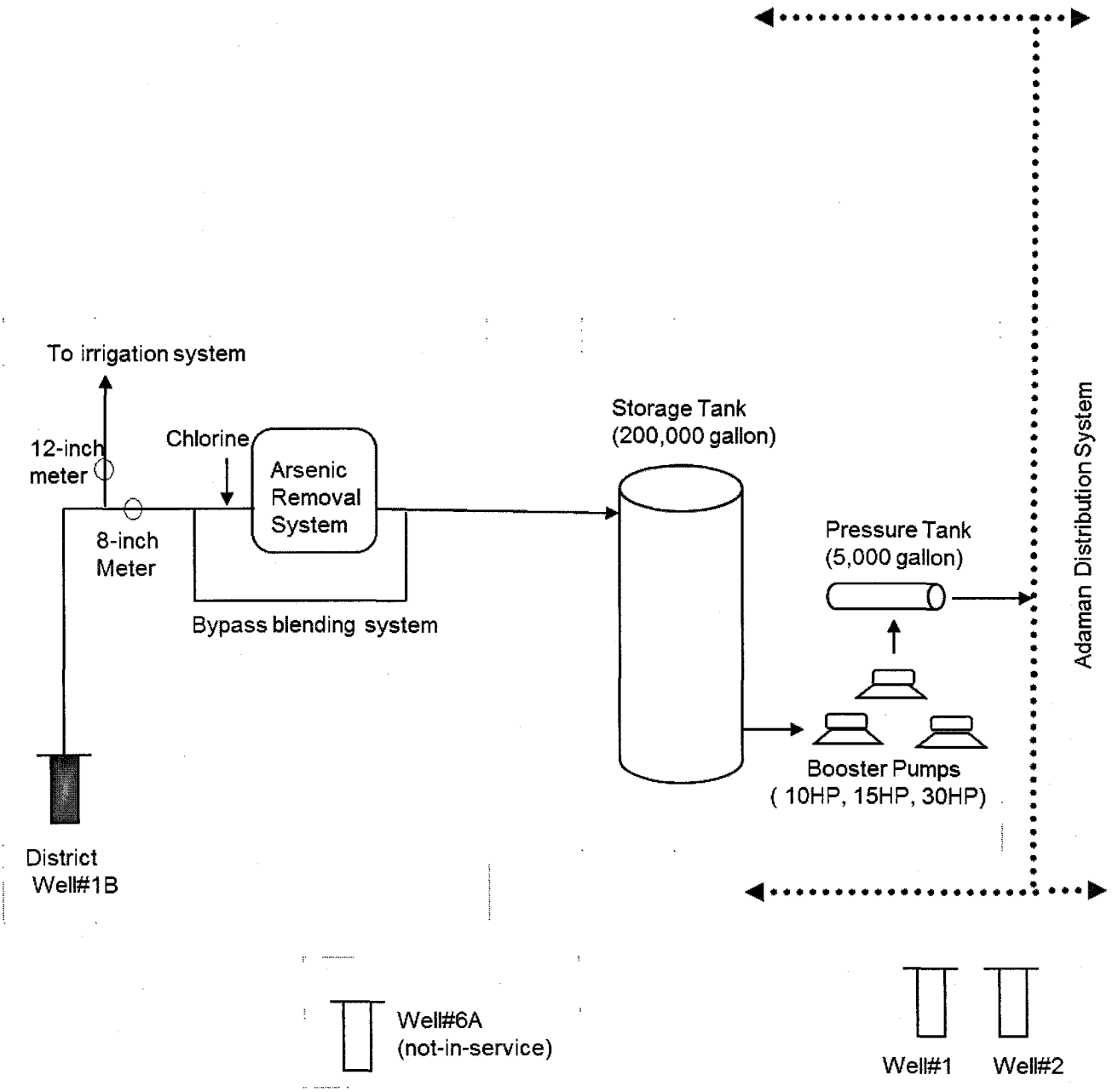
Capacity (GPM)	Manufacturer	Date Placed in Service (AOC)	Structures
550	Severn Trent	January 9, 2009	Block Fence

Other Treatment Equipment	Structures
Chlorination System	Chlorine House

Distribution system					
Mains			Customer Meters		Fire Hydrants
Size (inches)	Material	Length (feet)	Size (inches)	Quantity	Quantity
4	ACP/PVC	34,920	5/8x3/4	25	3
6	PVC	10,365	3/4	37	
8	PVC	2,600	1	147	
12	PVC	160	1-1/2	31	
			2	15	
			Turbo 3	3	
			Turbo 4	1	
			Turbo 6	1	

[7] Wells are owned by the Company, but constructed and maintained by Goodyear and serve only Goodyear, per the Goodyear Sales Agreement.

Figure 4 Adaman Water System Schematic

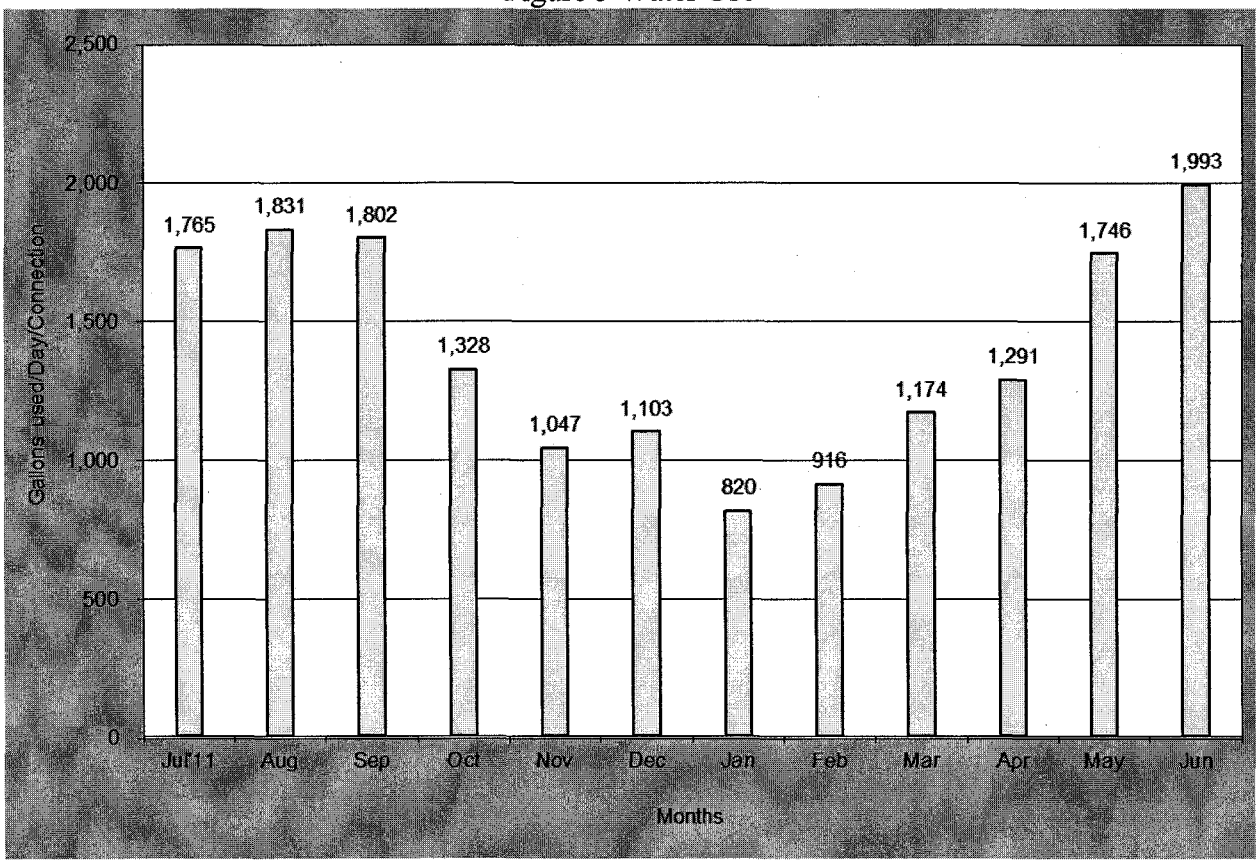


2. Water Use

Water Sold:

Figure 5 represents the water consumption data provided by the Company in its water use data sheet for the test year ending June 30, 2012. The Adaman customer consumption included a high monthly water use of 1,993 gallons per day ("GPD") per connection in June, and the low water use was 820 GPD per connection in January. The average annual use was 1,401 GPD per connection.[8]

Figure 5 Water Use



Non-account Water:

Non-account water should be 10 percent or less, and never more than 15 percent. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a company to identify water and revenue losses due to leakage, theft and flushing.

[8] Some of Adaman's non-residential customers, such as farms, a commercial dairy and the World Wild Life Zoo, are high volume water users.

The Company reported 144,269,000 gallons purchased from the District and 132,067,000 gallons sold to its customers for the test year, resulting in a water loss of 8.5 percent. This percentage is within acceptable limit of 10 percent.

3. System Analysis

Based on the Company's water use data for the test year, Staff concludes that the Adaman system has adequate water supply to serve the present customer base and a reasonable level of growth. However, the storage capacity of 200,000 gallons is inadequate to serve the present customer base of 260 service connections. Based on the Company's water use data and the capacity analyses, a minimum of 600,000 gallons of storage is required on this system (with a single source) to meet seasonal peak demand[9]. As an alternative, multiple well sources (with a minimum total operating capacity of 750 GPM) could satisfy the storage capacity deficiency.

The Company is planning to utilize an additional well with estimated yield of 1,000 GPM. According to the Company, the District, in partnership with Adaman, is in the process of developing a new well (Well No. 1C) that both entities will share. Adaman intends to purchase water from the District Well No. 1C, as needed, or in the event that the District Well No. 1B is out of service. The existing ARS will be utilized to provide arsenic treatment.

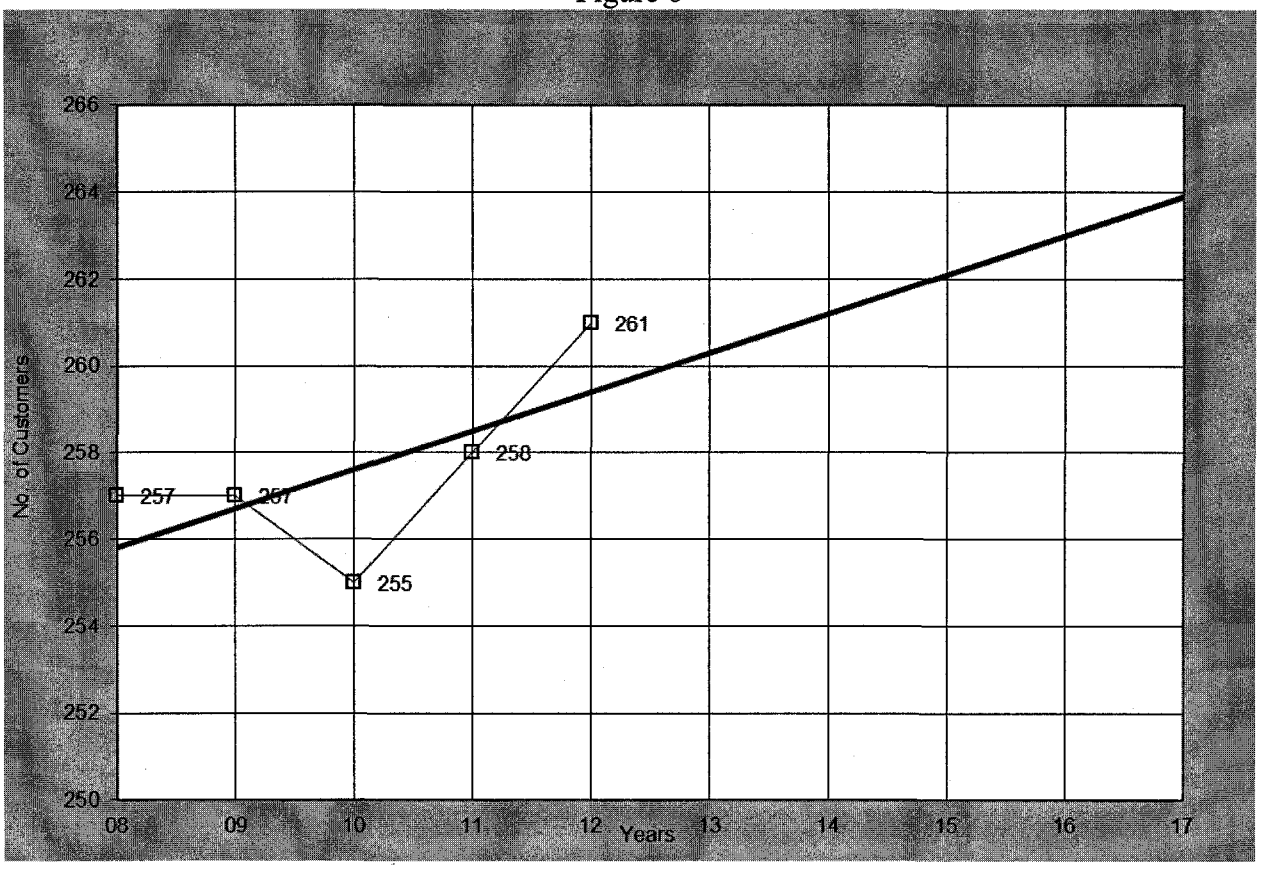
Staff recommends that the Company file with Docket Control as a compliance item in this docket by May 31, 2014, a copy of the ADEQ Approval of Construction for the new Well No. 1C.

4. Growth

Based on customer data provided by the Company, it is projected that the Adaman system could have approximately 264 connections by 2017. Figure 6 depicts actual growth from 2008 to 2012 and projects an estimated growth in the service area for the next five years using linear regression analysis.

[9] Staff analysis of the system capacities does not include fire flow.

Figure 6



III. ADEQ COMPLIANCE

Compliance

ADEQ or its formally delegated agent, the MCESD, has reported that the Company's water system (PWS No. 07-001) is currently delivering water that meets water quality standards required by 40 C.F.R. 14 (National Primary Drinking Water Regulations) and Arizona Administrative Code, Title 18, Chapter 4.[10]

Water Testing Expense

Participation in the ADEQ Monitoring Assistance Program ("MAP") is mandatory for water systems which serve less than 10,000 persons (approximately 3,300 service connections). Based on data provided by the Company, Staff's estimated average annual water testing expenses for the Company at $2,689. Table A shows the cost details of Staff's annual monitoring expense estimate totaling $2,689 with participation in the MAP.[11]

[10] Per MCESD Compliance Status Reports dated July 20, 2012.
[11] The ADEQ MAP invoice for the 2012 Calendar Year was $952, rounded.

Staff recommends its annual water testing expense estimate of $2,689 be used for this proceeding.

Table A. Water Testing Cost

Monitoring	Cost per Sample	No. of samples per year	Average Annual Cost
Total coliform – monthly	$16	24	$384
Nitrates-quarterly	$60	4	$240
Arsenic- quarterly	$40	16	$640
TTHM-annually	$110	1	$110
HAA5-annually	$250	1	$250
Lead & Copper – per 3 years	$34	10/3-yrs	$113
MAP – IOCs, SOCs, VOCs, Radiochemical, Nitrite, Asbestos- annual	MAP	MAP	$952
Total			**$2,689**

IV. ADWR COMPLIANCE

The Adaman system is located in the Phoenix AMA.

The ADWR has determined that the Adaman system is currently in compliance with ADWR requirements governing water providers and/or community water systems.[12]

V. ACC COMPLIANCE

A check with Utilities Division Compliance Section showed that there are currently no delinquent compliance items for the Company.[13]

VI. DEPRECIATION RATES

Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table B. Staff recommends that the Company adopt Staff's typical and customary depreciation rates in the accounts listed in Table B.

[12] Per ADWR Compliance status check dated January 9, 2013.
[13] Per ACC Compliance status check dated February 13, 2013.

TABLE B
DEPRECIATION RATE TABLE FOR WATER COMPANIES

NARUC Account No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----

NOTES:

1. These depreciation rates represent average expected rates. Water companies may experience different rates due to variations in construction, environment, or the physical and chemical characteristics of the water.
2. Account 348, Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.

VII. OTHER ISSUES

1. Service Line and Meter Installation Charges

Service line and meter charges are refundable advances. The Company has requested changes in its service line and meter installation charges and the requested charges are within Staff's customary range of charges. Since the Company may at times install meters on existing service lines, it would be appropriate for some customers to only be charged for the meter installation. Therefore, separate service line and meter charges have been developed by Staff.

Staff recommends its service line and meter installation charges labeled "Staff's Recommendation" in Table C.

Table C
Service Line and Meter Installation Charges

Meter Size	Company Current Tariff[14]	Company Proposed Tariff	**Staff's Recommendation**		
			Service Line Charge	Meter Charge	Total Charge
5/8 x ¾-inch	$350	$600	$445	$155	$600
¾-inch	$375	$700	$455	$255	$700
1-inch	$425	$810	$495	$315	$810
1-1/2-inch	$665	$1,075	$550	$525	$1,075
2-inch	$1,080	$1,875	$830	$1,045	$1,875
3-inch	$1,460	$2,715	$1,045	$1,670	$2,715
4-inch	$1,995	$4,160	$1,490	$2,670	$4,160
6-inch	$4,450	$7,235	$2,210	$5,025	$7,235

2. Curtailment Plan Tariff

The Company has an approve curtailment plan tariff.

3. Backflow Prevention Tariff

The Company has an approved backflow prevention tariff.

4. Best Management Practices ("BMPs")

Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 90 days of the effective date of this Decision, at least three

[14] Became effective on August 1, 1996

BMPs in the form of tariffs that conform to the templates created by Staff for the Commission's review and consideration. The templates created by Staff are available on the Commission's website at http://www.azcc.gov/Divisions/Utilities/forms.asp The Company may request cost recovery of actual expenses associated with the BMPs implemented in its next general rate application.

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP
Chairman
GARY PIERCE
Commissioner
BRENDA BURNS
Commissioner
SUSAN BITTER SMITH
Commissioner
BOB BURNS
Commissioner

IN THE MATTER OF THE APPLICATION OF ADAMAN MUTUAL WATER COMPANY FOR APPROVAL OF A RATE INCREASE	))))	DOCKET NO. W-01997A-12-0501

DIRECT

TESTIMONY

OF

JOHN A. CASSIDY

PUBLIC UTILITIES ANALYST

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

AUGUST 7, 2013

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SCHEDULES

EXECUTIVE SUMMARY
ADAMAN MUTUAL WATER COMPANY
DOCKET NO. W-01997A-12-0501

The Direct Testimony of Staff witness John A. Cassidy addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a capital structure for Adaman Mutual Water Company ("Adaman" or "Company") for this proceeding consisting of 0.0 percent debt and 100.0 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.1 percent return on equity ("ROE") for the Company. Staff's estimated ROE for the Company is based on the 8.5 percent average of its discounted cash flow method ("DCF") and capital asset pricing model ("CAPM") cost of equity methodology estimates for the sample companies of 8.5 percent for the DCF and 8.4 percent for the CAPM. Staff's recommended ROE includes an upward economic assessment adjustment of 60 basis points.

Cost of Debt – Staff recommends that the Commission adopt a 0.0 percent cost of debt for the Company, as Adaman has no debt in its capital structure.

Overall Rate of Return – Staff recommends that the Commission adopt a 9.1 percent overall rate of return.

The Company's Application – Although it is a Class "C" regulated water utility, Adaman requested a waiver allowing it to file the short-form rate application generally applicable for Class "D" and "E" utilities, and Staff accepted the Company's request. Consequently, the Company's filing was not accompanied by cost of capital schedules (i.e., Schedules D.1 – D.4) indicating the proposed ROE.

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is John A. Cassidy. I am a Public Utilities Analyst employed by the Arizona Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst.

A. I am responsible for the examination of financial and statistical information included in utility rate applications and other financial matters, including studies to estimate the cost of capital component in rate filings used to determine the overall revenue requirement, and for preparing written reports, testimonies and schedules to present Staff's recommendations to the Commission on these matters.

Q. Please describe your educational background and professional experience.

A. I hold a Bachelor of Arts degree in History from Arizona State University, a Master of Library Science degree from the University of Arizona, and a Master of Business Administration degree with an emphasis in Finance from Arizona State University. While pursuing my MBA degree, I was inducted into Beta Gamma Sigma, the National Business Honor Society. I have passed the CPA exam, but opted not to pursue certification. I have worked professionally as a librarian, financial consultant and tax auditor and served as Staff's cost of capital witness in rate case evidentiary proceedings in my current as well as in a past tenure as a Commission employee.

Q. What is the scope of your testimony in this case?

A. My testimony provides Staff's recommended capital structure, return on equity ("ROE") and overall rate of return ("ROR") for establishing the revenue requirement for Adaman Mutual Water Company's ("Adaman" or "Company") pending rate application.

Q. Please provide a brief description of Adaman.

A. Adaman is a public service corporation providing potable water utility service to metered customers in parts of Maricopa County, Arizona, pursuant to certificates of convenience and necessity granted by the Commission. During the test year, Adaman provided service to 261 metered customers.

Summary of Testimony and Recommendations

Q. Briefly summarize how Staff's cost of capital testimony is organized.

A. Staff's cost of capital testimony is presented in eleven sections. Section I is this introduction. Section II discusses the concept of weighted average cost of capital ("WACC"). Section III presents the concept of capital structure and presents Staff's recommended capital structure for Adaman in this proceeding. Section IV presents Staff's cost of debt for Adaman. Section V discusses the concepts of ROE and risk. Section VI presents the methods employed by Staff to estimate Adaman's ROE. Section VII presents the findings of Staff's ROE analysis. Section VIII presents additional factors considered in developing the cost of equity estimate for Adaman. Section IX presents Staff's ROR recommendation. Finally, Section X presents Staff's conclusions.

Q. Have you prepared any exhibits to accompany your testimony?

A. Yes. I prepared nine schedules (JAC-1 to JAC-9) that support Staff's cost of capital analysis.

Q. What is Staff's recommended rate of return for Adaman?

A. Staff recommends a 9.1 percent overall ROR, as shown in Schedule JAC-1. Staff's ROR recommendation is based on cost of equity estimates for the sample companies of 8.5 percent from the discounted cash flow ("DCF") method and 8.4 percent from the capital asset pricing model ("CAPM"). Staff recommends adoption of a 60 basis point upward Economic Assessment Adjustment, resulting in a 9.1 percent return on equity.

Adaman's Proposed Overall Rate of Return

Q. Briefly summarize Adaman's proposed capital structure, cost of debt, ROE and overall ROR for this proceeding.

A. The Company proposes a capital structure consisting of 100.0 percent equity and 0.0 percent. However, because the Application is silent as to both the return on equity requested in this rate proceeding and the rate base proposed, the overall ROR proposed by the Company is indeterminable, as shown in Table 1 below.

Table 1

	Weight	Cost	Weighted Cost
Long-term Debt	0.0%	0.00%	0.00%
Common Equity	100.0%	N/A	N/A
Cost of Capital/ROR			**N/A**

II. THE WEIGHTED AVERAGE COST OF CAPITAL

Q. Briefly explain the cost of capital concept.

A. The cost of capital is the opportunity cost of choosing one investment over others with equivalent risk. In other words, the cost of capital is the return that stakeholders expect

for investing their financial resources in a determined business venture over another business venture.

Q. What is the overall cost of capital?

A. The overall cost of capital for a firm issuing a variety of securities (i.e., stock and indebtedness) represents an average of the various cost rates on all securities issued by the firm adjusted to reflect the relative weighting of each security within the firm's capital structure. Thus, for any given firm, the overall cost of capital is the firm's weighted average cost of capital ("WACC").

Q. How is the WACC calculated?

A. The WACC is calculated by adding the weighted expected returns of a firm's securities. The WACC formula is:

Equation 1.

$$WACC = \sum_{i=1}^{n} W_i * r_i$$

In this equation, W_i is the weight given to the i^{th} security (the proportion of the i^{th} security relative to the portfolio) and r_i is the expected return on the i^{th} security.

Q. Can you provide an example demonstrating application of Equation 1?

A. Yes. For this example, assume that an entity has a capital structure composed of 60 percent debt and 40 percent equity. Also, assume that the embedded cost of debt is 6.0 percent and the expected return on equity, i.e., the cost of equity, is 10.5 percent. Calculation of the WACC is as follows:

WACC = (60% * 6.0%) + (40% * 10.5%)

WACC = 3.60% + 4.20%

WACC = 7.80%

The weighted average cost of capital in this example is 7.80 percent. The entity in this example would need to be positioned to earn an overall rate of return of 7.80 percent to cover its cost of capital.

III. CAPITAL STRUCTURE

Background

Q. Please explain the capital structure concept.

A. The capital structure of a firm is the relative proportions of each type of security: short-term debt, long-term debt (including capital leases), preferred stock and common stock--that are used to finance the firm's assets.

Q. How is the capital structure expressed?

A. The capital structure of a company is expressed as the percentage of each component of the capital structure (capital leases, short-term debt, long-term debt, preferred stock and common stock) relative to the entire capital structure.

As an example, the capital structure for an entity that is financed by $20,000 of short-term debt, $85,000 of long-term debt (including capital leases), $15,000 of preferred stock and $80,000 of common stock is shown in Table 2.

Table 2

Component			%
Short-Term Debt	$20,000	($20,000/$200,000)	10.0%
Long-Term Debt	$85,000	($85,000/$200,000)	42.5%
Preferred Stock	$15,000	($15,000/$200,000)	7.5%
Common Stock	$80,000	($80,000/$200,000)	40.0%
Total	$200,000		100%

The capital structure in this example is composed of 10.0 percent short-term debt, 42.5 percent long-term debt, 7.5 percent preferred stock and 40.0 percent common stock.

Adaman' Capital Structure

Q. What capital structure does the Company propose?

A. Adaman proposes a capital structure of 0.0 percent debt and 100.0 percent common equity. The proposed capital structure reflects the Company's actual capital structure as of the June 30, 2012 test-year end date.

Q. How does Adaman's capital structure compare to capital structures of publicly-traded water utilities?

A. Schedule JAC-4 shows the capital structures of six publicly-traded water companies ("sample water companies" or "sample water utilities") as of December 31, 2012. The average capital structure for the sample water utilities is comprised of approximately 51.2 percent debt and 48.8 percent equity.

Staff's Capital Structure

Q. What is Staff's recommended capital structure for Adaman in this proceeding?

A. Staff recommends a capital structure composed of 0.0 percent debt and 100.0 percent equity, and reflects the Company's actual capital as of the June 30, 2012 test-year end.

IV. COST OF DEBT

Q. What is the basis for the Company's proposed 0.0 percent cost of debt in this proceeding?

A. As noted above, Adaman has no debt in its capital structure; therefore, the Company has a cost of debt of 0.0 percent.

Q. What cost of debt does Staff recommend?

A. Staff recommends a cost of debt of 0.0 percent, as shown in Schedule JAC-1.

V. COST OF EQUITY

Background

Q. Please define the term "cost of equity capital."

A. The cost of equity is the rate of return that investors expect to earn on their investment in a business entity given its risk. In other words, the cost of equity to the entity is the investors' expected rate of return on other investments of similar risk. As investors have a wide selection of stocks to choose from, they will choose stocks with similar risks but higher returns. Therefore, the market determines the entity's cost of equity.

Q. Is there a correlation between interest rates and the cost of equity?

A. Yes, there is a positive correlation between interest rates and the cost of equity, as the two tend to move in the same direction. This relationship is reflected in the CAPM formula.

The CAPM is a market-based model employed by Staff for estimating the cost of equity. The CAPM is further discussed in Section VI of this testimony.

Q. What has been the general trend of interest rates in recent years?

A. A chronological chart of interest rates is a good tool to show interest rate history and identify trends. Chart 1 graphs intermediate U.S. treasury rates from January 4, 2002, to May 31, 2013.

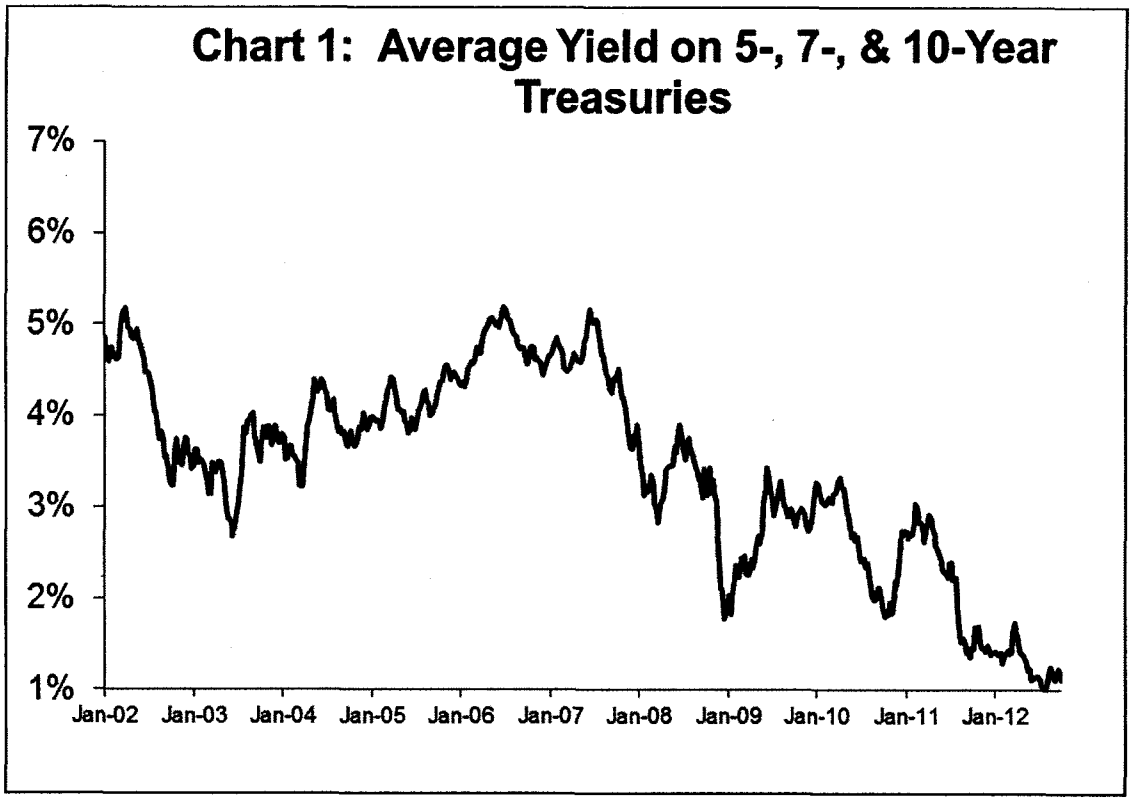
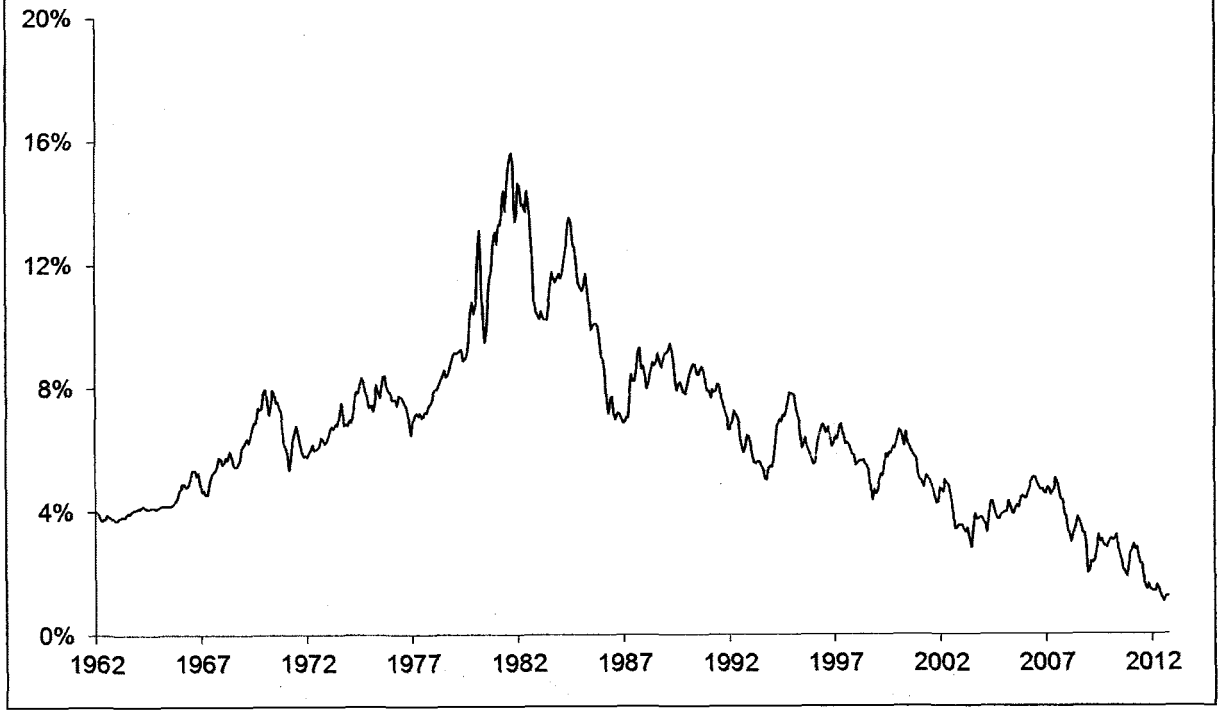


Chart 1 shows that intermediate-term interest rates trended downward from 2002 to mid-2003, trended upward through mid-2007, and have generally trended down since that time.

Q. What has been the general trend in interest rates longer term?

A. U.S. Treasury rates from January 1962- May 2013 are shown in Chart 2. The chart shows that interest rates trended upward through the mid-1980s and have trended downward over the last 25 years.

Chart 2: History of 5- and 10-Year Treasury Yields



Source: Federal Reserve

Q. Do these trends suggest anything in terms of cost of equity?

A. Yes. As previously noted, interest rates and the cost of equity tend to move in the same direction; therefore, the cost of equity has declined over the past 25 years.

Q. Do actual returns represent the cost of equity?

A. No. The cost of equity represents investors' *expected* returns and not realized returns.

Q. Is there any information available that leads to an understanding of the relationship between the equity returns required for a regulated water utility and those required in the market as a whole?

A. Yes. A comparison of betas, a component of the CAPM discussed in Section VI, for the water utility industry and the market provides insight into this relationship. In theory, the market has a beta value of 1.0, with stocks bearing greater risk (less risk) than the market having beta values higher than (lower than) 1.0, respectively. Furthermore, in accordance with the CAPM, the cost of equity capital moves in the same direction as beta. Therefore, because the average beta value (0.71)[1] for a water utility is less than 1.0, the required return on equity for a regulated water utility is below that of the market as a whole.

Risk

Q. Please define risk in relation to cost of capital.

A. Risk, as it relates to an investment, is the variability or uncertainty of the returns on a particular security. Investors are risk averse and require a greater potential return to invest in relatively greater risk opportunities, i.e., investors require compensation for taking on additional risk. Risk is generally separated into two components. Those components are market risk (systematic risk) and non-market risk (unsystematic risk, diversifiable risk or firm-specific risk).

Q. What is market risk?

A. Market risk, or systematic risk, is the risk associated with an investment that cannot be reduced through diversification. Market risk stems from factors that affect all securities, such as recessions, war, inflation and high interest rates. Since these factors affect the entire market they cannot be eliminated through diversification. Market risk does not

[1] See Schedule JAC-7.

impact each security to the same degree. The degree to which a given security's return is affected by market fluctuations can be measured using Beta. Beta reflects the business risk and the financial risk of a security.

Q. Please define business risk.

A. Business risk is the fluctuation of earnings inherent in a firm's operations and environment, such as competition and adverse economic conditions that may impair its ability to provide returns on investment. Companies in the same industry or similar lines of business tend to experience the same fluctuations in business cycles.

Q. Please define financial risk.

A. Financial risk is the fluctuation of earnings, inherent in the use of debt financing, that may impair a firm's ability to provide an adequate return; the higher the percentage of debt in a firm's capital structure, the greater its exposure to financial risk.

Q. Do business risk and financial risk affect the cost of equity?

A. Yes.

Q. Is a firm subject to any other risk?

A. Yes. Firms are also subject to unsystematic or firm-specific risk. Examples of unsystematic risk include losses caused by labor problems, nationalization of assets, loss of a big client or weather conditions. Investors can eliminate firm-specific risk by holding a diverse portfolio; thus, it is not of concern to diversified investors.

Q. How does Adaman's financial risk exposure compare to that of Staff's sample group of companies?

A. Schedule JAC-4 shows the capital structures of Staff's six sample water companies as of December 30, 2012, and Adaman's actual capital structure as of the June 30, 2012 test-year end. As shown, the sample water utilities were capitalized with approximately 51.2 percent debt and 48.8 percent equity, while Adaman's capital structure consists of 0.0 percent debt and 100.0 percent equity. Thus, unlike Staff's sample companies, Adaman has no debt in its capital structure; therefore, the Company has no exposure to financial risk.

Q. Is firm-specific risk measured by beta?

A. No. Firm-specific risk is not measured by beta.

Q. Is the cost of equity affected by firm-specific risk?

A. No. Since firm-specific risk can be eliminated through diversification, it does not affect the cost of equity.

Q. Can investors expect additional returns for firm-specific risk?

A. No. Investors who hold diversified portfolios can eliminate firm-specific risk and, consequently, do not require any additional return. Since investors who choose to be less than fully-diversified must compete in the market with fully-diversified investors, the former cannot expect to be compensated for unique risk.

VI. ESTIMATING THE COST OF EQUITY

Introduction

Q. Did Staff directly estimate the cost of equity for Adaman?

A. No. Since Adaman is not a publicly-traded company, Staff is unable to directly estimate its cost of equity due to the lack of firm-specific market data. Instead, Staff estimated the Company's cost of equity indirectly, using a representative sample group of publicly traded water utilities as a proxy. Use of a sample is appropriate, as it reduces the sample error resulting from random fluctuations in the market at the time the information is gathered.

Q. What water utilities did Staff select for its proxy group of sample companies?

A. Staff's sample consists of the following six publicly-traded water utilities: American States Water, California Water, Aqua America, Connecticut Water Services, Middlesex Water and SJW Corp. Staff chose these companies because they are publicly-traded and receive the majority of their earnings from regulated operations.

Q. What models did Staff implement to estimate Adaman's cost of equity?

A. Staff used two market-based models to estimate the cost of equity for Adaman: the DCF model and the CAPM.

Q. Please explain why Staff chose the DCF and CAPM models.

A. Staff chose to use the DCF and CAPM models because they are widely-recognized market-based models and have been used extensively to estimate the cost of equity. An explanation of the DCF and CAPM models follows.

Discounted Cash Flow Model Analysis

Q. Please provide a brief summary of the theory upon which the DCF method of estimating the cost of equity is based.

A. The DCF method of stock valuation is based on the theory that the value of an investment is equal to the sum of the future cash flows generated from the aforementioned investment discounted to the present time. This method uses expected dividends, market price and dividend growth rate to calculate the cost of capital. Professor Myron Gordon pioneered the DCF method in the 1960s. The DCF method has become widely used to estimate the cost of equity for public utilities due to its theoretical merit and its simplicity. Staff used the financial information for the relevant six sample companies in the DCF model and averaged the results to determine an estimated cost of equity for the sample companies.

Q. Does Staff use more than one version of the DCF?

A. Yes. Staff uses two versions of the DCF model: the constant-growth DCF and the multi-stage or non-constant growth DCF. The constant-growth DCF assumes that an entity's dividends will grow indefinitely at the same rate. The multi-stage growth DCF model assumes the dividend growth rate will change at some point in the future.

The Constant-Growth DCF

Q. What is the mathematical formula used in Staff's constant-growth DCF analysis?

A. The constant-growth DCF formula used in Staff's analysis is:

Equation 2 :

$$K = \frac{D_1}{P_0} + g$$

where : K = the cost of equity
D_1 = the expected annual dividend
P_0 = the current stock price
g = the expected infinite annual growth rate of dividends

Equation 2 assumes that the entity has a constant earnings retention rate and that its earnings are expected to grow at a constant rate. According to Equation 2, a stock with a current market price of $10 per share, an expected annual dividend of $0.45 per share and an expected dividend growth rate of 3.0 percent per year has a cost of equity to the entity of 7.5 percent reflected by the sum of the dividend yield ($0.45/ $10 = 4.5 percent) and the 3.0 percent annual dividend growth rate.

Q. How did Staff calculate the expected dividend yield (D_1/P_0) component of the constant-growth DCF formula?

A. Staff calculated the expected yield component of the DCF formula by dividing the expected annual dividend (D_1) by the spot stock price (P_0) after the close of market on July 10, 2013, as reported by *MSN Money*.

Q. Why did Staff use the July 10, 2013, spot price rather than a historical average stock price to calculate the dividend yield component of the DCF formula?

A. The current, rather than historic, market price is used in order to be consistent with financial theory. In accordance with the Efficient Market Hypothesis, the current stock price is reflective of all available information relating to the stock, and as such reveals investors' expectations of future returns. Use of historical average stock prices illogically

discounts the most recent information in favor of less recent information. The latter is stale and is representative of underlying conditions that may have changed.

Q. How did Staff estimate the dividend growth (g) component of the constant-growth DCF model represented by Equation 2?

A. The dividend growth component used by Staff is determined by the average of six different estimation methods, as shown in Schedule JAC-8. Staff calculated historical and projected growth estimates on dividend-per-share ("DPS"),[2] earnings-per-share ("EPS")[3] and sustainable growth bases.

Q. Why did Staff examine EPS growth to estimate the dividend growth component of the constant-growth DCF model?

A. Historic and projected EPS growth are used because dividends are related to earnings. Dividend distributions may exceed earnings in the short run, but cannot continue indefinitely. In the long term, dividend distributions are dependent on earnings.

Q. How did Staff estimate historical DPS growth?

A. Staff estimated historical DPS growth by calculating a compound annual DPS growth rate for each of its sample companies over the 10-year period, 2002-2012. As shown in Schedule JAC-5, the average historical DPS growth rate for the sample was 3.4 percent.

Q. How did Staff estimate projected DPS growth?

A. Staff calculated an average of the projected DPS growth rates for the sample water utilities from *Value Line* through the period, 2016-2018. The average projected DPS growth rate is 5.2 percent, as shown in Schedule JAC-5.

[2] Derived from information provided by *Value Line.*
[3] Derived from information provided by *Value Line.*

Q. How did Staff estimate historical EPS growth rate?

A. Staff estimated historical EPS growth by calculating a compound annual EPS growth rate for each of its sample companies over the 10-year period, 2002-2012. As shown in Schedule JAC-5, the average historical EPS growth rate for the sample was 4.9 percent.

Q. How did Staff estimate projected EPS growth?

A. Staff calculated an average of the projected EPS growth rates for the sample water utilities from *Value Line* through the period, 2016-2018. The average projected EPS growth rate is 4.7 percent, as shown in Schedule JAC-5.

Q. How does Staff calculate its historical and projected sustainable growth rates for the sample companies?

A. Historical and projected sustainable growth rates are calculated by adding each sample company's respective retention growth rate ("*br*," or "*br* term") to its respective stock financing growth rate ("*vs*," or "*vs* term"), as shown in Schedule JAC-6.

Q. What is retention growth?

A. Retention growth is the growth in dividends due to the retention of earnings. The retention growth concept is based on the theory that dividend growth cannot be achieved unless the company retains and reinvests some of its earnings. The retention growth *br* term is used in Staff's calculation of sustainable growth shown in Schedule JAC-6.

Q. What is the formula for the retention growth rate?

A. The retention growth rate is the product of the retention ratio and the book/accounting return on equity. The retention growth rate formula is:

Equation 3 :

Retention Growth Rate = br

where : b = the retention ratio (1 – dividend payout ratio)
r = the accounting/book return on common equity

Q. How did Staff calculate the average historical retention growth rate (*br*) for the sample water utilities?

A. Staff calculated the mean of the 10-year average historical retention rate for each sample company over the period, 2002-2012. As shown in Schedule JAC-6, the historical average retention growth rate (*br*) for the sample is 2.8 percent.

Q. How did Staff estimate its projected retention growth rate (*br*) for the sample water utilities?

A. Staff used the retention growth projections for the sample water utilities for the period, 2016-2018, from *Value Line.* As shown in Schedule JAC-6, the projected average retention growth rate (*br*) for the sample companies is 3.8 percent.

Q. When can retention growth provide a reasonable estimate of future dividend growth?

A. The retention growth rate is a reasonable estimate of future dividend growth when the retention ratio is reasonably constant and the entity's market price to book value ("market-to-book ratio") is expected to be 1.0. The average retention ratio has been reasonably constant in recent years. However, the market-to-book ratio for the sample water utilities is 2.2, notably higher than 1.0, as shown in Schedule JAC-7.

Q. Is there any financial implication of a market-to-book ratio greater than 1.0?

A. Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to earn an accounting/book return on its equity that exceeds its cost of equity. The relationship between required returns and expected cash flows is readily observed in the fixed securities market. For example, assume an entity contemplating issuance of bonds with a face value of $10 million at either 6 percent or 8 percent and, thus, paying annual interest of $600,000 or $800,000, respectively. Regardless of investors' required return on similar bonds, investors will be willing to pay more for the bonds if issued at 8 percent than if the bonds are issued at 6 percent. For example, if the current interest rate required by investors is 6 percent, then they would bid $10 million for the 6 percent bonds and more than $10 million for the 8 percent bonds. Similarly, if equity investors require a 9 percent return and expect an entity to earn accounting/book returns of 13 percent, the market will bid up the price of the entity's stock to provide the required return of 9 percent.

Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of equity analyses in recent years?

A. Staff has assumed that investors expect the market-to-book ratio to remain greater than 1.0. Given that assumption, Staff has added a stock financing growth rate (*vs*) to the retention growth *br* term to calculate its historical and projected sustainable growth rates.

Q. Do the historical and projected sustainable growth rates Staff uses to develop its DCF cost of equity in this case continue to include a stock financing growth rate term?

A. Yes.

Q. What is stock financing growth?

A. Stock financing growth is the growth in an entity's dividends attributable to the sale of newly issued shares of common stock. Stock financing growth is a concept derived by Myron Gordon and discussed in his book *The Cost of Capital to a Public Utility.*[4] Stock financing growth is the product of the fraction of the funds raised from the sale of stock that accrues to existing shareholders (v) and the fraction resulting from dividing the funds raised from the sale of stock by the existing common equity (s).

Q. What is the mathematical formula for the stock financing growth rate?

A. The mathematical formula for stock financing growth is:

Equation 4:

$$\text{Stock Financing Growth} = vs$$

where: v = Fraction of the funds raised from the sale of stock that accrues to existing shareholders

s = Funds raised from the sale of stock as a fraction of the existing common equity

Q. How is the variable *v* presented above calculated?

A. Variable v is calculated as follows:

Equation 5:

$$v = 1 - \left(\frac{book\ value}{market\ value} \right)$$

For example, assume that a share of stock has a $30 book value and is selling for $45. Then, to find the value of v, the formula is applied:

[4] Gordon, Myron J. *The Cost of Capital to a Public Utility.* MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

$$v = 1-\left(\frac{30}{45}\right)$$

In this example, v is equal to 0.33.

Q. How is the variable *s* presented above calculated?

A. Variable s is calculated as follows:

Equation 6:

$$s = \frac{\text{Funds raised from the issuance of stock}}{\text{Total existing common equity before the issuance}}$$

For example, assume that an entity has $150 in existing equity, and it sells $30 of stock. Then, to find the value of s, the formula is applied:

$$s = \left(\frac{30}{150}\right)$$

In this example, s is equal to 20.0 percent.

Q. What is the stock financing growth rate (*vs*) when the market-to-book ratio is equal to 1.0?

A. A market-to-book ratio of 1.0 indicates that investors expect an entity to earn a book/accounting return on their equity investment equal to the cost of equity. Thus, when the market-to-book ratio is equal to 1.0, Equation 5 shows that none of the proceeds raised from the sale of newly issued shares of common stock accrue to the benefit of existing

shareholders, as the variable (*v*) is equal to zero (0.0), which means that the *vs* term, likewise, is equal to zero (0.0). When stock financing growth is zero, dividend growth depends solely on the *br* term.

Q. What is the effect on the *vs* term when the market-to-book ratio is greater than 1.0?

A. A market-to-book ratio greater than 1.0 suggests that investors expect an entity to earn a book/accounting return on their equity investment greater than the cost of equity. Equation 5 shows that when the market-to-book ratio is greater than 1.0, the variable (*v*) is also greater than zero. Thus, the excess by which new shares are issued and sold over book value per share of outstanding stock is a contribution that accrues to existing stockholders in the form of a higher book value. The resulting higher book value leads to higher expected earnings and dividends. Continued growth from the *vs* term is dependent upon the continued issuance and sale of additional shares at a price that exceeds book value per share.

Q. What stock financing growth rate (*vs*) estimate did Staff calculate from its analysis of the sample water utilities?

A. Staff estimated an average stock financing growth rate of 2.0 percent for the sample water utilities, as shown in Schedule JAC-6.

Q. What would occur if an entity had a market-to-book ratio greater than 1.0 as a result of investors expecting earnings to exceed its cost of equity, and subsequently experienced newly-authorized rates equal only to its cost of equity?

A. Holding all other factors constant, one would expect market forces to move the Company's stock price lower, closer to a market-to-book ratio of 1.0, to reflect investor expectations of reduced expected future cash flows.

Q. If the average market-to-book ratio of Staff's sample water utilities were to fall to 1.0 due to authorized ROEs equaling their cost of equity, would inclusion of the vs term be necessary to Staff's constant-growth DCF analysis?

A. No. As discussed above, when the market-to-book ratio is equal to 1.0, no portion of the funds raised from the sale of stock by the entity accrues to the benefit of existing shareholders because the *v* term is equal to zero; thus, the *vs* term is also equal to zero. When the market-to-book ratio equals 1.0, dividend growth depends solely on the *br* term. Staff's inclusion of the *vs* term assumes that the market-to-book ratio continues to exceed 1.0, and that the sample water utilities will continue to issue and sell stock at prices above book value with the effect of benefitting existing shareholders.

Q. What are Staff's historical and projected sustainable growth rates?

A. Staff's estimated historical sustainable growth rate is 4.8 percent based on an analysis of earnings retention for the sample water companies. Staff's projected sustainable growth rate is 5.8 percent based on retention growth projected by *Value Line.* Schedule JAC-6 presents Staff's estimates of the sustainable growth rate.

Q. What is Staff's expected infinite annual growth rate in dividends?

A. Staff's expected dividend growth rate (g) is 4.8 percent, which is the average of historical and projected DPS, EPS, and sustainable growth estimates. Staff's calculation of the expected infinite annual growth rate in dividends is shown in Schedule JAC-8.

Q. What is Staff's constant-growth DCF estimate for the sample utilities?

A. Staff's constant-growth DCF estimate is 7.7 percent, as shown in Schedule JAC-3.

The Multi-Stage DCF

Q. Why did Staff implement the multi-stage DCF model to estimate Adaman's cost of equity?

A. Staff generally uses the multi-stage DCF model to consider the assumption that dividends may not grow at a constant rate. The multi-stage DCF uses two stages of growth; the first stage (near-term) having a four-year duration, followed by a second stage (long-term) of constant growth.

Q. What is the mathematical formula for the multi-stage DCF?

A. The multi-stage DCF formula is shown in the following equation:

Equation 7 :

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n}\left[\frac{1}{(1+K)}\right]^n$$

Where : P_0 = current stock price
D_t = dividends expected during stage 1
K = cost of equity
n = years of non – constant growth
D_n = dividend expected in year n
g_n = constant rate of growth expected after year n

Q. What steps did Staff take to implement its multi-stage DCF cost of equity model?

A. First, Staff projected future dividends for each of the sample water utilities using near-term and long-term growth rates. Second, Staff calculated the internal rate of return (cost of equity) which equates the present value of the forecasted dividends to the current stock price for each of the sample water utilities. Lastly, Staff calculated an overall sample average cost of equity estimate.

Q. How did Staff calculate near-term (stage-1) growth?

A. The stage-1 growth rate is based on *Value Line's* projected dividends for the next twelve months, when available, and on the average dividend growth (g) rate of 4.8 percent calculated in Staff's constant-growth DCF analysis for the remainder of the stage.

Q. How did Staff estimate long-term (stage-2) growth?

A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross Domestic Product ("GDP") from 1929 to 2012.[5] Using the GDP growth rate assumes that the water utility industry is expected to grow at the same rate as the overall economy.

Q. What is the historical GDP growth rate that Staff used to estimate stage-2 growth?

A. Staff used 6.5 percent to estimate the stage-2 growth rate.

Q. What is Staff's multi-stage DCF estimate for the sample utilities?

A. Staff's multi-stage DCF estimate is 9.3 percent, as shown in Schedule JAC-3.

Q. What is Staff's overall DCF estimate for the sample utilities?

A. Staff's overall DCF estimate is 8.5 percent. Staff calculated the overall DCF estimate by averaging the constant growth DCF (7.7%) and multi-stage DCF (9.3%) estimates, as shown in Schedule JAC-3.

Capital Asset Pricing Model

Q. Please describe the CAPM.

A. The CAPM is used to determine the prices of securities in a competitive market. The CAPM model describes the relationship between a security's investment risk and its

[5] www.bea.doc.gov.

market rate of return. Under the CAPM, an investor requires the expected return of a security to equal the rate on a risk-free security plus a risk premium. The model also assumes that investors will sufficiently diversify their investments to eliminate any non-systematic or unique risk.[6] In 1990, Professors Harry Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in Economic Sciences for their contribution to the development of the CAPM.

Q. Did Staff use the same sample water utilities in its CAPM and DCF cost of equity estimation analyses?

A. Yes. Staff's CAPM cost of equity estimation analysis uses the same sample water companies as did its DCF cost of equity estimation analysis.

Q. What is the mathematical formula for the CAPM?

A. The mathematical formula for the CAPM is:

Equation 8:

$$K = R_f + \beta (R_m - R_f)$$

where:

R_f = risk free rate
R_m = return on market
β = beta
$R_m - R_f$ = market risk premium
K = expected return

[6] The CAPM makes the following assumptions: 1) single holding period; 2) perfect and competitive securities market; 3) no transaction costs; 4) no restrictions on short selling or borrowing; 5) the existence of a risk-free rate; and 6) homogeneous expectations.

The equation shows that the expected return (K) on a risky asset is equal to the risk-free interest rate (R_f) plus the product of the market risk premium ($R_m - R_f$) multiplied by the beta (β) coefficient, where beta represents the riskiness of the investment relative to the market.

Q. What is the risk-free rate?

A. The risk-free rate is the rate of return of an investment free of default risk.

Q. What does Staff use as surrogates to represent estimations of the risk-free rates of interest in its historical and current market risk premium CAPM methods?

A. Staff uses separate parameters as surrogates for the estimations of the risk-free rates of interest for the historical market risk premium CAPM cost of equity estimation and the current market risk premium CAPM cost of equity estimation. Staff uses the average of three (5-, 7-, and 10-year) intermediate-term U.S. Treasury securities' spot rates in its historical market risk premium CAPM cost of equity estimation, and the 30-year U.S. Treasury bond spot rate in its current market risk premium CAPM cost of equity estimation. Rates on U.S. Treasuries are largely verifiable and readily available.

Q. What does beta measure?

A. Beta is a measure of a security's price volatility, or systematic risk, relative to the market as a whole. Since systematic risk cannot be diversified away, it is the only risk that is relevant when estimating a security's required return. Using a baseline market beta of 1.0, a security having a beta value less than 1.0 will be less volatile (i.e., less risky) than the market. A security with a beta value greater than 1.0 will be more volatile (i.e., more risky) than the market.

Q. How did Staff estimate Adaman's beta?

A. Staff used the average of the *Value Line* betas for the sample water utilities as a proxy for the Company's beta. Schedule JAC-7 shows the *Value Line* betas for each of the sample water utilities. The 0.71 average beta for the sample water utilities is Staff's estimated beta for Adaman. A security having a beta value of 0.71 is less volatile than the market as a whole, and thus requires a lower return on equity than does the overall market.

Q. What is the market risk premium ($R_m - R_f$)?

A. The market risk premium is the expected return on the market, minus the risk-free rate. Simplified, it is the return an investor expects as compensation for market risk.

Q. What did Staff use for the market risk premium?

A. Staff uses separate calculations for the market risk premium in its historical and current market risk premium CAPM methods.

Q. How did Staff calculate an estimate for the market risk premium in its historical market risk premium CAPM method?

A. Staff uses the intermediate-term government bond income returns published in the Ibbotson Associates' *Stocks, Bonds, Bills, and Inflation 2013 Yearbook* to calculate the historical market risk premium. Ibbotson Associates calculates the historical risk premium by averaging the historical arithmetic differences between the S&P 500 and the intermediate-term government bond income returns for the period 1926-2012. Staff's historical market risk premium estimate is 7.2 percent, as shown in Schedule JAC-3.

Q. How did Staff calculate an estimate for the market risk premium in its current market risk premium CAPM method?

A. Staff solves Equation 8, shown above, to arrive at a market risk premium using a DCF-derived expected return (K) of 11.83 (2.1 + 9.73[7]) percent using the expected dividend yield (2.1 percent over the next twelve months) and the annual per share growth rate (9.73 percent) that *Value Line* projects for all dividend-paying stocks under its review[8] along with the current long-term risk-free rate (30-year Treasury note at 3.68 percent) and the market's average beta of 1.0. Staff calculated the current market risk premium as 8.15 percent,[9] as shown in Schedule JAC-3.

Q. What is the result of Staff's historical market risk premium CAPM and current market risk premium CAPM cost of equity estimations for the sample utilities?

A. Staff's cost of equity estimates are 7.2 percent using the historical market risk premium CAPM and 9.5 percent using the current market risk premium CAPM.

Q. What is Staff's overall CAPM estimate for the sample utilities?

A. Staff's overall CAPM cost of equity estimate is 8.4 percent which is the average of the historical market risk premium CAPM (7.2 percent) and the current market risk premium CAPM (9.5 percent) estimates, as shown in Schedule JAC-3.

[7] The three to five year price appreciation is 45%. $1.45^{0.25}$ - 1 = 9.73%.
[8] July 12, 2013 issue date.
[9] 11.83% = 3.68% + (1) (8.15%).

VII. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS

Q. What is the result of Staff's constant-growth DCF analysis to estimate the cost of equity for the sample water utilities?

A. Schedule JAC-3 shows the result of Staff's constant-growth DCF analysis. The result of Staff's constant-growth DCF analysis is as follows:

k = 2.9% + 4.8%

k = **7.7%**

Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is 7.7 percent.

Q. What is the result of Staff's multi-stage DCF analysis to estimate of the cost of equity for the sample utilities?

A. Schedule JAC-9 shows the result of Staff's multi-stage DCF analysis. The result of Staff's multi-stage DCF analysis is:

Company	**Equity Cost Estimate (k)**
American States Water	8.8%
California Water	9.5%
Aqua America	8.5%
Connecticut Water	9.7%
Middlesex Water	10.0%
SJW Corp	9.1%
Average	**9.3%**

Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.3 percent.

Q. What is Staff's overall DCF estimate of the cost of equity for the sample utilities?

A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 8.5 percent. Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant growth DCF (7.7 percent) and Staff's multi-stage DCF (9.3 percent) estimates, as shown in Schedule JAC-3.

Q. What is the result of Staff's historical market risk premium CAPM analysis to estimate of the cost of equity for the sample utilities?

A. Schedule JAC-3 shows the result of Staff's CAPM analysis using the historical risk premium estimate. The result is as follows:

$$k = 2.1\% + 0.71 * 7.2\%$$

$$k = 7.2\%$$

Staff's CAPM estimate (using the historical market risk premium) of the cost of equity for the sample water utilities is 7.2 percent.

Q. What is the result of Staff's current market risk premium CAPM analysis to estimate the cost of equity for the sample utilities?

A. Schedule JAC-3 shows the result of Staff's CAPM analysis using the current market risk premium estimate. The result is:

$$k = 3.7\% + 0.71 * 8.2\%$$

$$k = 9.5\%$$

Staff's CAPM estimate (using the current market risk premium) of the cost of equity to the sample water utilities is 9.5 percent.

Q. What is Staff's overall CAPM estimate of the cost of equity for the sample utilities?

A. Staff's overall CAPM estimate for the sample utilities is 8.4 percent. Staff's overall CAPM estimate is the average of the historical market risk premium CAPM (7.2 percent) and the current market risk premium CAPM (9.5 percent) estimates, as shown in Schedule JAC-3.

Q. Please summarize the results of Staff's cost of equity analysis for the sample utilities.

A. The following table shows the results of Staff's cost of equity analysis:

Table 2

Method	Estimate
Average DCF Estimate	8.5%
Average CAPM Estimate	8.4%
Overall Average	**8.5%**

Staff's average estimate of the cost of equity to the sample water utilities is 8.5 percent.

VIII. FINAL COST OF EQUITY ESTIMATES FOR ADAMAN

Q. Please compare Adaman's capital structure to that of the six sample water companies.

A. The average capital structure for the sample water utilities is composed of 48.8 percent equity and 51.2 percent debt, as shown in Schedule JAC-4. Adaman proposes a capital structure composed of 100.0 percent equity and 0.0 percent debt. In this case, because Adaman's capital structure is less leveraged than that of the average sample water utilities'

capital structure, its stockholders bear less financial risk than do equity shareholders of the sample water utilities.

Q. Does Adaman's reduced financial risk affect its cost of equity?

A. Yes. As previously discussed, financial risk is a component of market risk and investors require compensation for market risk. Since Adaman's financial risk is less than that of the average sample water companies, its cost of equity is lower than that of the sample water companies.

Q. Is Staff recommending a downward financial risk adjustment to Adaman's cost of equity in recognition of the Company having less financial risk exposure than the sample water utilities?

A. No. Because Adaman does not have access to the capital markets, Staff is not recommending a downward financial risk adjustment to the Company's cost of equity.

Q. Did Staff consider factors other than the results of its technical models in its cost of equity analysis?

A. Yes. In consideration of the relatively uncertain status of the economy and the market that currently exists, Staff is proposing an Economic Assessment Adjustment to the cost of equity. In this case, Staff recommends a 60 basis point (0.6 percent) upward Economic Assessment Adjustment, as shown in Schedule JAC-3.

Q. What is Staff's ROE estimate for Adaman?

A. Staff determined a COE estimate of 8.5 percent for Adaman based on cost of equity estimates for the sample companies of 8.5 percent for the DCF and 8.4 percent for the CAPM. Staff recommends adoption of a 60 basis point upward Economic Assessment

Adjustment resulting in a 9.1 percent Staff-recommended ROE, as shown in Schedule JAC-3.

IX. RATE OF RETURN RECOMMENDATION

Q. What overall rate of return did Staff determine for Adaman?

A. Staff determined a 9.1 percent ROR for the Company, as shown in Schedule JAC-1 and the following table:

Table 3

	Weight	Cost	Weighted Cost
Long-term Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	9.1%	9.1%
Overall ROR			**9.1%**

X. CONCLUSION

Q. Please summarize Staff's recommendations.

A. Staff recommends that the Commission adopt a 9.1 percent overall rate of return for Adaman based on a capital structure composed of 0.0 percent debt and 100.0 percent equity, Staff's 8.5 percent cost of equity estimate, and Staff's 60 basis point (0.6 percent) upward economic assessment adjustment.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

Adaman Mutual Water Company Cost of Capital Calculation
Capital Structure
And Weighted Average Cost of Capital
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
Description	Weight (%)	Cost	Weighted Cost
Staff Recommended Structure			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	9.1%	9.1%
Weighted Average Cost of Capital			**9.1%**
Company Proposed Structures:			
Debt	0.0%	0.00%	0.00%
Common Equity	100.0%	N/A	N/A
Weighted Average Cost of Capital			**N/A**

[D] : [B] x [C]

Supporting Schedules: JAC-3 and JAC-4.

Note: The Company's application does not include a proposed ROE or rate base; thus, a proposed ROR/WACC was indeterminable.

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Adaman Mutual Water Company Cost of Capital Calculation
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]		[C]		[D]		[E]
DCF Method			D_1/P_0 [1]	+	g [2]	=	**k**
Constant Growth DCF Estimate			2.9%	+	4.8%	=	7.7%
Multi-Stage DCF Estimate						=	9.3%
Average DCF Estimate							**8.5%**
CAPM Method	**Rf**	+	β [5]	x	**(Rp)**	=	**k**
Historical Market Risk Premium [3]	2.1%	+	0.71	x	7.2% [6]	=	7.2%
Current Market Risk Premium [4]	3.7%	+	0.71	x	8.2% [7]	=	9.5%
Average CAPM Estimate							**8.4%**
					Average of Overall Estimates		**8.5%**
					Economic Assessment Adjustment		**0.6%**
					Sub-Total		**9.1%**
					Financial risk adjustment		0.0%
					Total		**9.1%**

1 MSN Money and Value Line

2 Schedule JAC-8

3 Risk-free rate (Rf) for 5, 7, and 10 year Treasury rates from the U.S. Treasury Department at www.ustreas.gov

4 Risk-free rate (Rf) for 30 Year Treasury bond rate from the U.S. Treasury Department at www.ustreas.gov

5 Value Line

6 Historical Market Risk Premium (Rp) calculated from Ibbotson Associates SBBI 2013 Yearbook data

7 Testimony

Adaman Mutual Water Company Cost of Capital Calculation
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
Company	Debt	Common Equity	Total
American States Water	43.3%	56.7%	100.0%
California Water	54.2%	45.8%	100.0%
Aqua America	55.2%	44.8%	100.0%
Connecticut Water	55.3%	44.7%	100.0%
Middlesex Water	43.1%	56.9%	100.0%
SJW Corp	56.2%	43.8%	100.0%
Average Sample Water Utilities	**51.2%**	**48.8%**	**100.0%**
Adaman Mutual Capital Structure	**0.0%**	**100.0%**	**100.0%**

Source:
Sample Water Companies from Value Line

Adaman Mutual Water Company Cost of Capital Calculation
Growth in Earnings and Dividends
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 2002 to 2012 DPS[1]	Dividends Per Share Projected DPS[1]	Earnings Per Share 2002 to 2012 EPS[1,2]	Earnings Per Share Projected EPS[1]
American States Water	3.9%	6.0%	7.7%	1.2%
California Water	1.2%	7.4%	5.0%	5.8%
Aqua America	7.7%	8.3%	7.3%	8.0%
Connecticut Water	1.7%	2.8%	3.2%	2.1%
Middlesex Water	1.6%	1.6%	2.1%	5.0%
SJW Corp	4.4%	4.9%	4.2%	6.3%
Average Sample Water Utilities	**3.4%**	**5.2%**	**4.9%**	**4.7%**

1 Value Line

2 Negative values are inconsistent with the DCF, accordingly, they are excluded from the average.

Adaman Mutual Water Company Cost of Capital Calculation
Sustainable Growth
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 2002 to 2012 br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth 2002 to 2012 br + vs	Sustainable Growth Projected br + vs
American States Water	3.8%	5.6%	1.6%	5.4%	7.2%
California Water	2.4%	3.2%	1.5%	3.9%	4.7%
Aqua America	3.9%	4.4%	2.0%	5.9%	6.4%
Connecticut Water	2.0%	3.0%	3.7%	5.7%	6.7%
Middlesex Water	1.2%	2.8%	3.1%	4.4%	5.9%
SJW Corp	3.5%	3.8%	0.1%	3.6%	3.9%
Average Sample Water Utilities	**2.8%**	**3.8%**	**2.0%**	**4.8%**	**5.8%**

[B]: Value Line
[C]: Value Line
[D]: Value Line and MSN Money
[E]: [B]+[D]
[F]: [C]+[D]

Adaman Mutual Water Company Cost of Capital Calculation
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 7/10/2013	Book Value	Mkt To Book	*Value Line* Beta β	Raw Beta βraw
American States Water	AWR	**56.24**	23.41	2.4	**0.70**	0.52
California Water	CWT	**20.42**	11.56	1.8	**0.65**	0.45
Aqua America	WTR	**32.55**	9.86	3.3	**0.60**	0.37
Connecticut Water	CTWS	**29.07**	13.90	2.1	**0.75**	0.60
Middlesex Water	MSEX	**20.96**	11.93	1.8	**0.70**	0.52
SJW Corp	SJW	**26.49**	15.14	1.7	**0.85**	0.75
Average				**2.2**	**0.71**	**0.53**

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]: (-0.35 + [F]) / 0.67

Adaman Mutual Water Company Cost of Capital Calculation
Calculation of Expected Infinite Annual Growth in Dividends
Sample Water Utilities

[A]	[B]
Description	g
DPS Growth - Historical[1]	3.4%
DPS Growth - Projected[1]	5.2%
EPS Growth - Historical[1]	4.9%
EPS Growth - Projected[1]	4.7%
Sustainable Growth - Historical[2]	4.8%
Sustainable Growth - Projected[2]	5.8%
Average	**4.8%**

1 Schedule JAC-5

2 Schedule JAC-6

Adaman Mutual Water Company Cost of Capital Calculation
Multi-Stage DCF Estimates
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[H]	[I]
Company	Current Mkt. Price (P_o)[1]	Projected Dividends[2] (Stage 1 growth) (D_t)				Stage 2 growth[3] (g_n)	Equity Cost Estimate (K)[4]
	7/10/2013	d_1	d_2	d_3	d_4		
American States Water	56.2	1.36	1.42	1.49	1.56	6.5%	8.8%
California Water	20.4	0.66	0.69	0.72	0.75	6.5%	9.5%
Aqua America	32.6	0.70	0.73	0.76	0.80	6.5%	8.5%
Connecticut Water	29.1	0.98	1.03	1.07	1.13	6.5%	9.7%
Middlesex Water	21.0	0.76	0.80	0.84	0.88	6.5%	10.0%
SJW Corp	26.5	0.74	0.78	0.81	0.85	6.5%	9.1%
						Average	**9.3%**

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n}\left[\frac{1}{(1+K)}\right]^n$$

Where : P_0 = current stock price
D_t = dividends expected during stage 1
K = cost of equity
n = years of non – constant growth
D_n = dividend expected in year n
g_n = constant rate of growth expected after year n

1 [B] see Schedule JAC-7

2 Derived from Value Line Information

3 Average annual growth in GDP 1929 - 2012 in current dollars.

4 Internal Rate of Return of Projected Dividends